DOCUMENT RESUME

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TITLE	The 4M companY: Make Mine Metric Mission! Sixth Grade Student Booklet.
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ABSTRACT

This student activity manual for elementary students is designed to teach several metric units. Included are activities related to length, area, volume, mass, and temperature. This manual emphasizes units, measuring, and computation skills. Computation skills stressed include addition, subtraction, and multiplication. Problems include whole numbers and decimals. Activities include a variety of drill sheets interspersed with other activities. Cartoons are used extensively to appeal to student interests. (RH)

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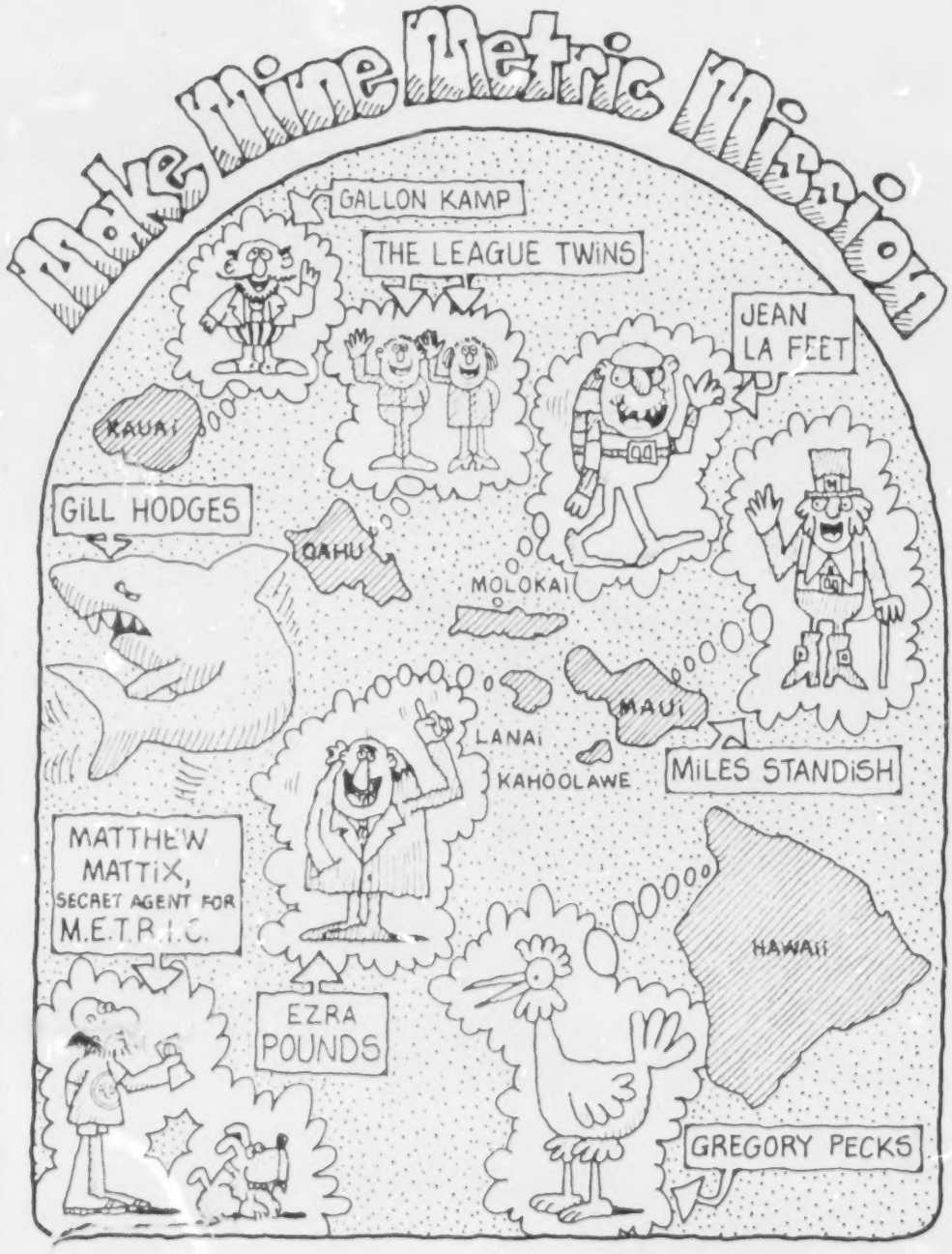
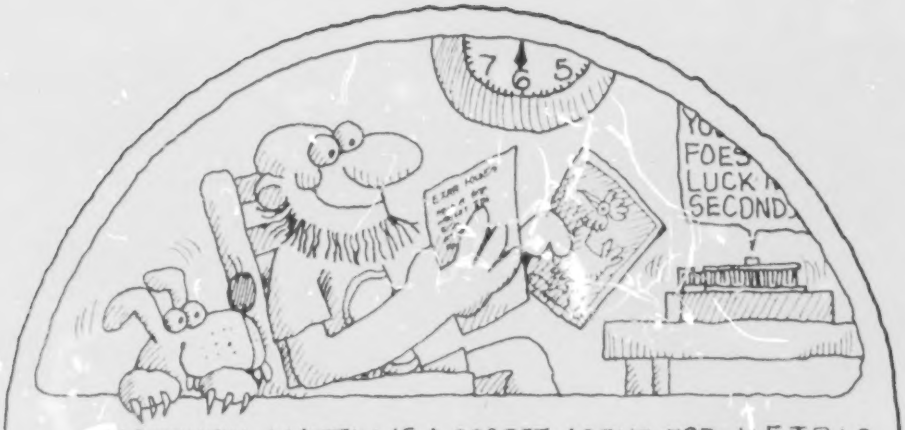
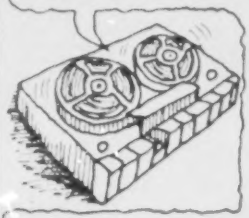

Make Mine Metric Mission
GALLON KAMP
THE LEAGUE TWINS
JEAN LA FEET
KAUAI
GILL HODGES
OAHU
MOLOKAI
MAUI
LANAI
KAHOOLAWE
MILES STANDISH
MATTHEW MATTIX, SECRET AGENT FOR M.E.T.R.I.C.
EZRA POUNDS
HAWAII
GREGORY PECKS



MATTHEW MATTIX IS A SECRET AGENT FOR M.E.T.R.I.C. (MEASUREMENT EDUCATION TRAINING AND RESEARCH INVESTIGATION COMMITTEE). A SECRET PACKAGE ARRIVES AT HIS HOUSE. IT CONTAINS A TAPE RECORDED MESSAGE AND PHOTOGRAPHS. MATTHEW STARTS THE TAPE:

THE METRIC SYSTEM IS THE BEST MEASUREMENT SYSTEM IN THE WORLD. YET ITS PROGRESS IS BEING BLOCKED BY UNITS FROM THE OLD-FASHIONED ENGLISH SYSTEM. MILES STANDISH IS FIGHTING THE KILOMETER. JEAN LA FEET IS AGAINST THE METER. THE TWINS, AMERICAN AND NATIONAL LEAGUE ARE GANGING UP AGAINST BOTH THE METER AND THE KILOMETER. EZRA POUNDS ATTACKS THE USE OF THE KILOGRAM, AND GALLON KAMP OPPOSES THE LITER. BUT THE MOST DANGEROUS ENGLISH UNITS WHICH THREATEN M.E.T.R.I.C. ARE A VICIOUS SHARK GILL HODGES AND THE REBEL ROOSTER GREGORY PECKS.



YOUR MISSION, SHOULD YOU DECIDE TO ACCEPT IT, IS TO CAPTURE OR CURE THESE FOES OF M.E.T.R.I.C. THEY WERE LAST SEEN IN HAWAII. GOOD LUCK MATTHEW. THIS TAPE WILL SELF-DESTRUCT IN FIVE SECONDS.

WITH HIS TRUSTY DOG AT HIS SIDE, MATTHEW MATTIX SETS OUT TO ACCOMPLISH HIS MISSION.

the 4th company

THREE DAYS LATER ON MAUI...
MILES STANDISH, I PRESUME?
AND WHO ARE YOU?
MAUI
MATTHEW MATTIX SECRET AGENT FOR M.E.T.R.I.C. MY MISSION IS TO CONVINCE YOU THAT METRIC IS BEST!
THAT'S IMPLAUSIBLE.

ENGLISH SYSTEM

12 inches → 1 foot
3 feet → 1 yard
5½ yards → 1 rod
40 rods → 1 furlong
8 furlongs → 1 mile
3 miles → 1 league

METRIC SYSTEM

10 millimeters → 1 centimeter
10 centimeters → 1 decimeter
10 decimeters → 1 meter
10 meters → 1 dekameter
10 dekameters → 1 hectometer
10 hectometers → 1 kilometer

I

12 INCHES = 1 FOOT
5280 FEET = 1 MILE
BUT! 10 MILLIMETERS = 1 CENTIMETER
AND 10 CENTIMETERS = 1 DECIMETER
BUT, 8 FURLONGS = 1 MILE
10 DECIMETERS = 1 METER
GEE, THAT IS NICE
YEAH, EACH UNIT IS 10 TIMES LARGER THAN THE NEXT SMALLER UNIT
BUT 5½ YARDS = 1 ROD
AND, 10 METERS = 1 DEKAMETER
REALLY?
YES, WHY NOT ASK THESE PEOPLE WHICH IS BEST?

1000	kilometer (km)	kiloliter (kL)	kilogram (kg)
100	hectometer (hm)	hectoliter (hL)	hectogram (hg)
10	dekameter (dam)	dekaliter (daL)	dekagram (dag)
1	meter (m)	liter (L)	gram (g)
0.1	decimeter (dm)	deciliter (dL)	decigram (dg)
0.01	centimeter (cm)	centiliter (cL)	centigram (cg)
0.001	millimeter (mm)	milliliter (mL)	milligram (mg)

M K T W M D M A K E
E I N P I E E V D M
T L S W L C T P E A
E O T S L I R U K T
R T W H I X I S A T
G C P M I O C T H H
R E N T U V N Q N E
A H T C E N T I V W
M A Q S U I S L E C
M I N E L I T E R Q

MAKE
MINE
METRIC
MISSION
MATTHEW
MATTIX
METER
LITER
GRAM
CELSIUS
KILO
HECTO
DEKA
DECI
CENTI
MILLI

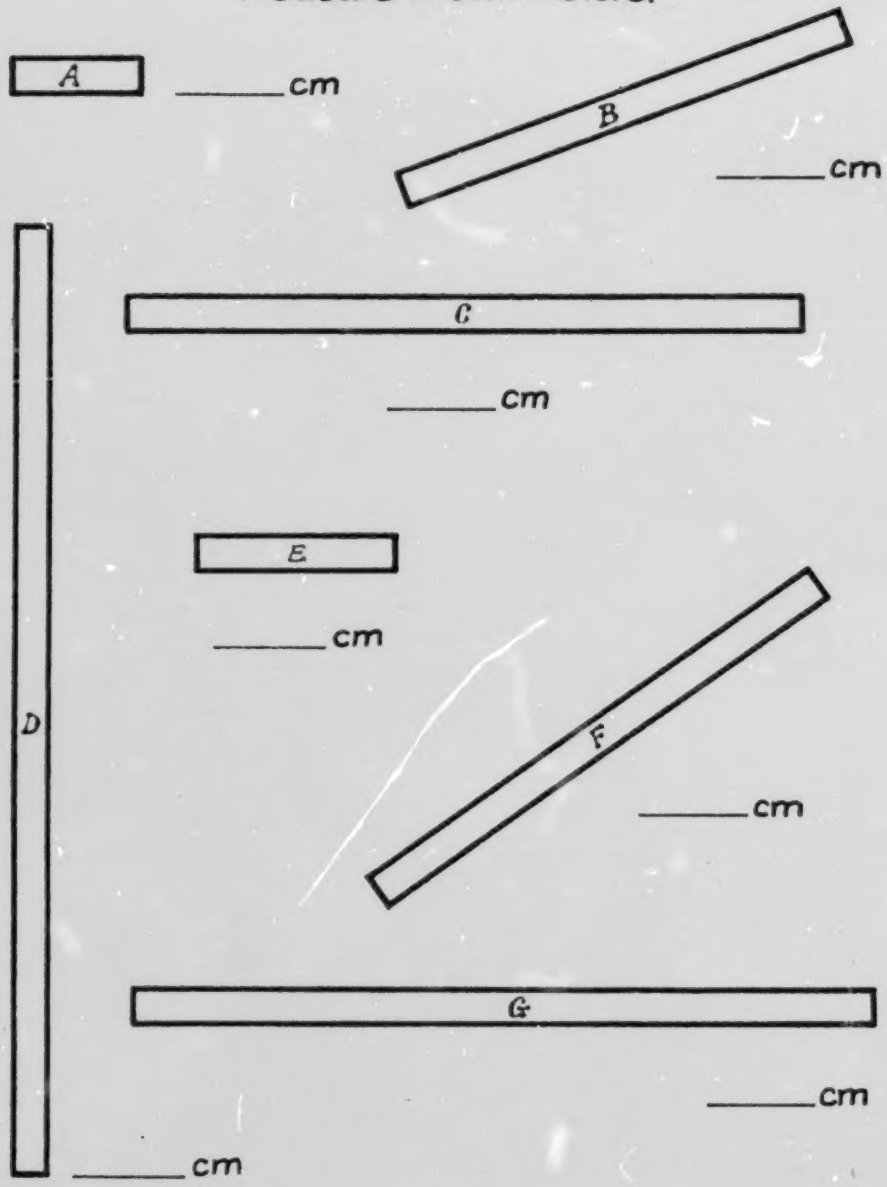
Circle the best answer.

I am *more than* *about* *less than* one meter tall.	My desk is *more than* *about* *less than* one meter tall.
The door is *more than* *about* *less than* one meter wide.	The window is *more than* *about* *less than* one meter wide.

Measure to find the answer.

Our room is _____ meters long.	Our room is _____ meters wide.

Measure in centimeters.



Use page 5 to answer these questions.

1. How long is the length of A plus the length of B?

_____ cm

2. How long is the length of C plus the length of D?

_____ cm

3. How long is the length of E plus the length of F plus the length of G?

_____ cm

4. If you add all the lengths together (A+B+C+D+E+F), how long are they?

_____ cm

5. Which is the longest stick?

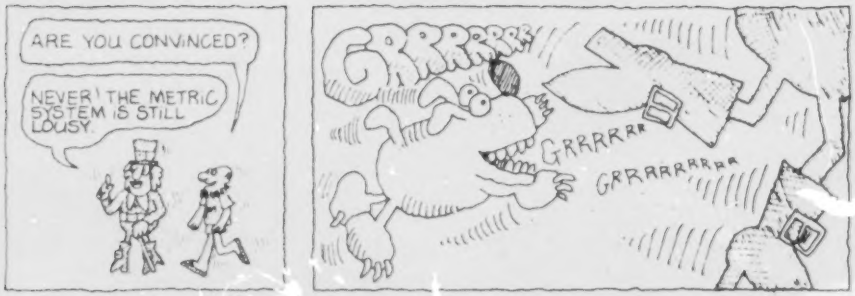
6. Which is the shortest stick?

7. Which sticks will add up to 10 centimeters?

8. Measure your metric booklet.

about ____ cm tall

about ____ cm wide



Measure in millimeters. Be careful!

_____ _____mm

_____ _____mm

_____ _____mm

_____ _____mm

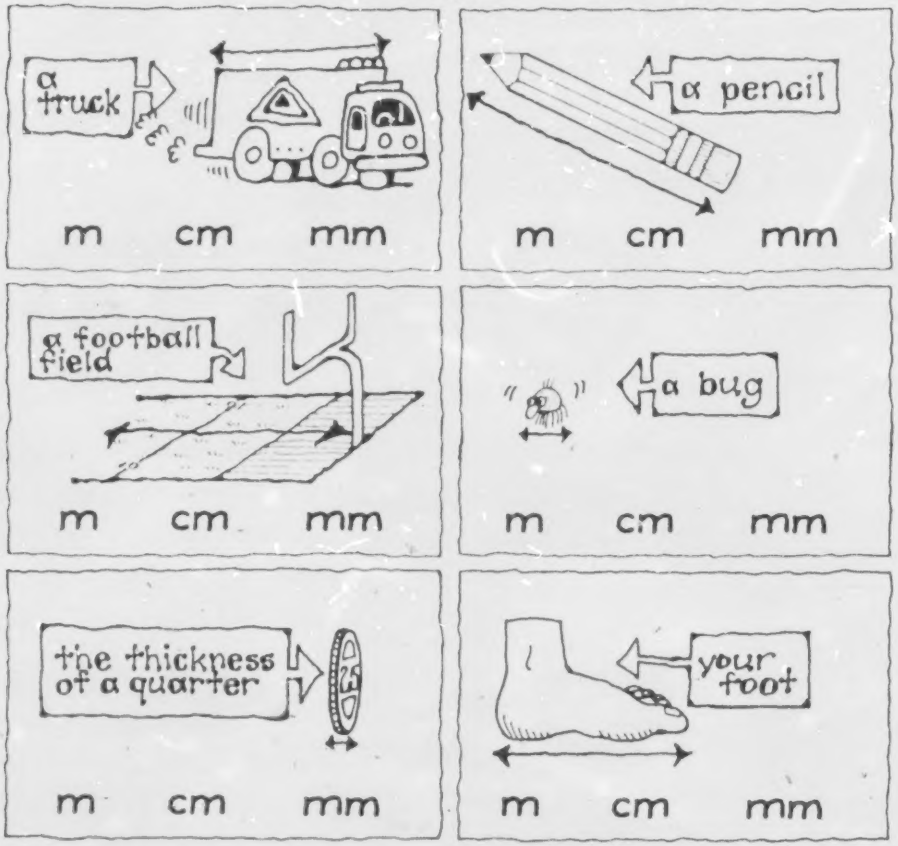
___ _____mm

_____ _____mm

_____ _____mm

_____ _____mm

Circle the best unit to use.



Check-up time

1. Measure the width of the room.
   about _____
2. Measure the width of your hand.
   about _____
3. Measure the length of this bug.
   about _____

DISTANCES IN KILOMETERS ON OAHU

Ala Moana Center	Central Honolulu	Diamond Head	Honolulu Airport	Kahuku	Kailua	Makaha	Pearl City	Waialua	Waikiki	Waimanalo
3										
6	10									
11	8	18								
58	54	62	54							
21	18	26	24	49						
56	53	62	49	85	64					
22	19	29	11	53	32	34				
51	48	58	40	27	61	58	29			
3	6	3	14	61	24	59	56	54		
26	22	27	29	50	8	69	37	66	29	

DISTANCES IN KILOMETERS ON MAUI

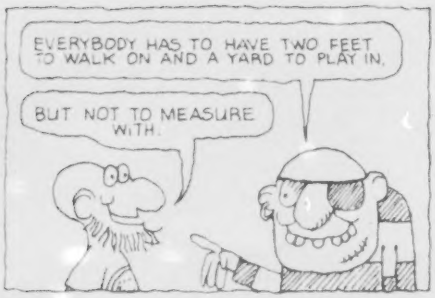
Haleakala Park	Hana	Kaanapali	Kahalui Airport	Kihei	Lahaina	Paia	Wailuku
94							
86	128						
42	83	46					
53	94	38	14				
80	122	6	37	32			
37	75	59	14	26	53		
46	96	40	8	14	34	19	

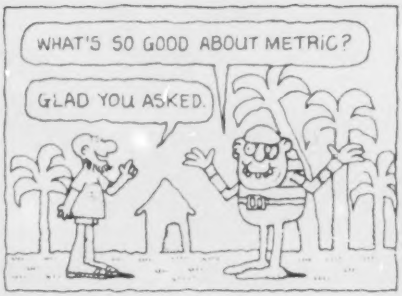
DISTANCES IN KILOMETERS ON LANAI

Kaumalapau Harbor	Lanai Airport	Lanai City	Manele Bay
5			
10	5		
22	18	13	

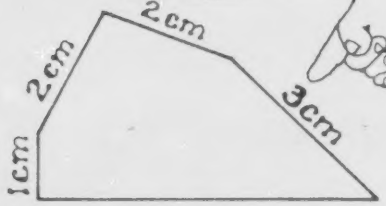
DISTANCES IN KILOMETERS ON MOLOKAI

Halawa	Kalaupapa Lookout	Kaunakakai	Kualapuu	Maunaloa	Molokai Airport
64					
45	16				
58	6	10			
72	29	27	22		
58	14	13	8	16	





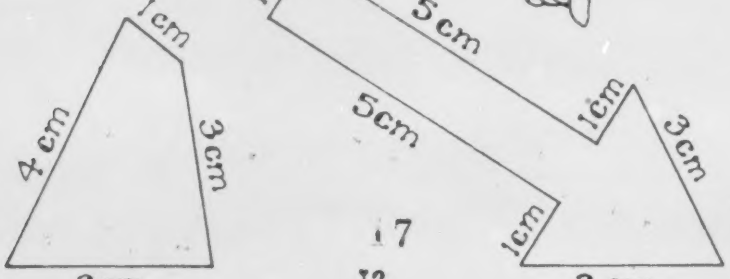
Add lengths of all sides to determine perimeter.



1 cm
2 cm
2 cm
3 cm
+ 5 cm
1 3 cm

So perimeter = 13 cm

Write the perimeter inside each figure.

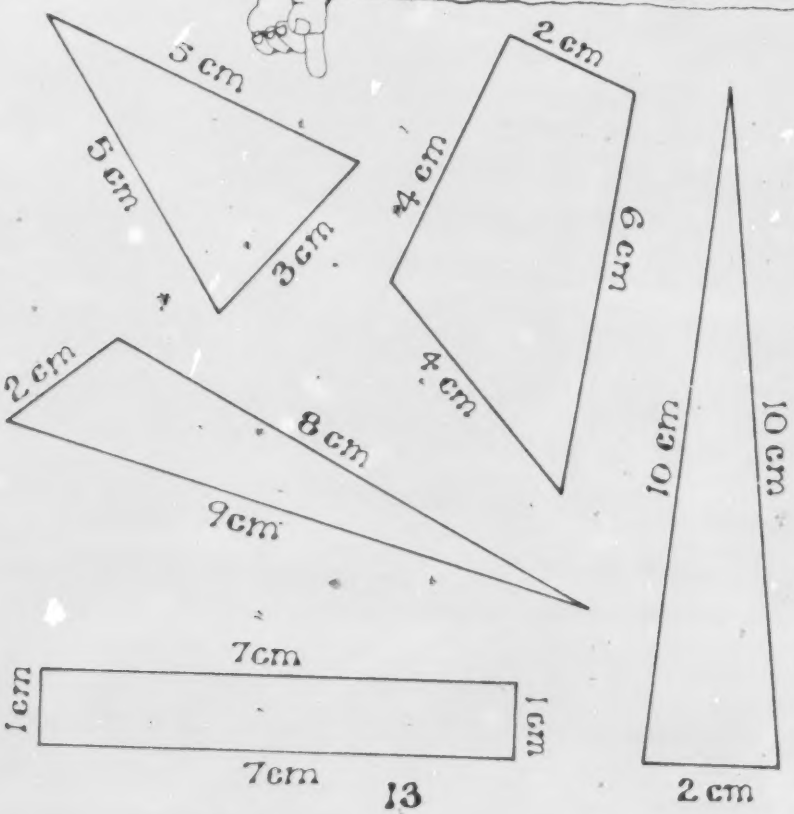


17

12

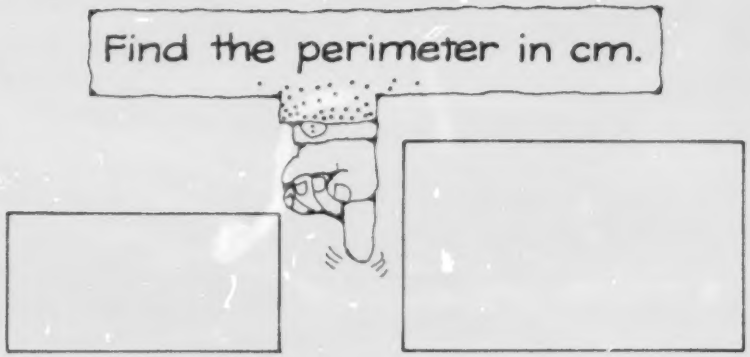
NUMBER ONE: THE METER IS THE BASE UNIT FOR LENGTH. EVERY OTHER UNIT OF LENGTH HAS THE WORD "METER" IN IT.
GIVE ME AN EXAMPLE.
WELL, THE KILOMETER, HECTOMETER, DEKAMETER, DECIMETER, CENTIMETER, MILLIMETER ARE ALL FOR UNITS OF LENGTH.
IS THAT ALL?

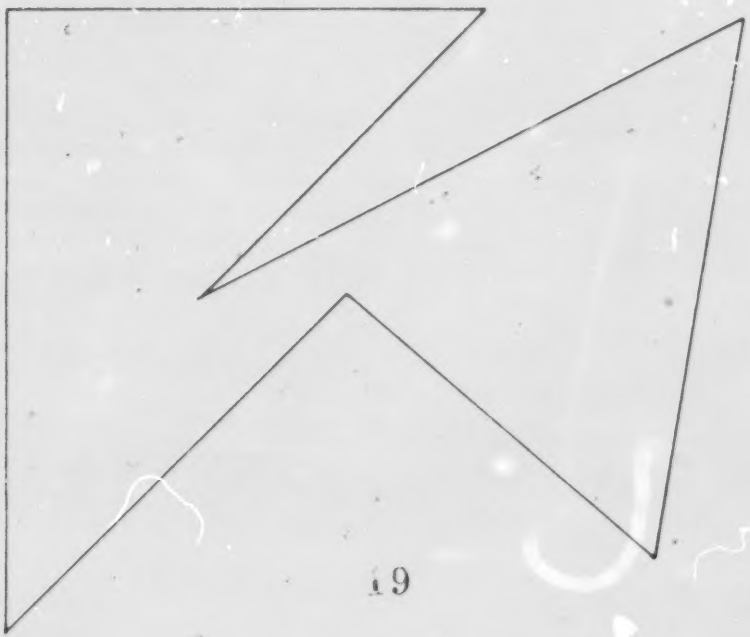
Write the perimeter inside each figure.



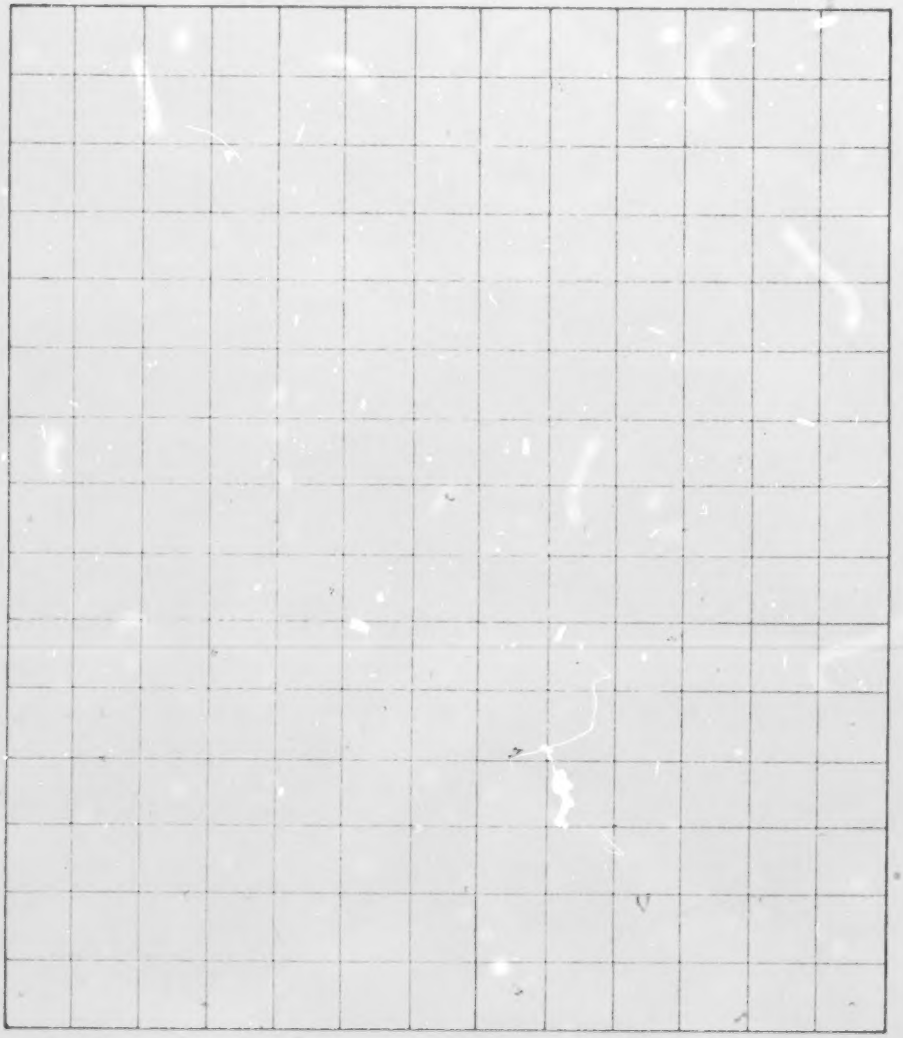
13

Find the perimeter in cm.





Can you draw a rectangle with perimeter 12 cm? 4 cm? 24 cm?



Special Challenge:

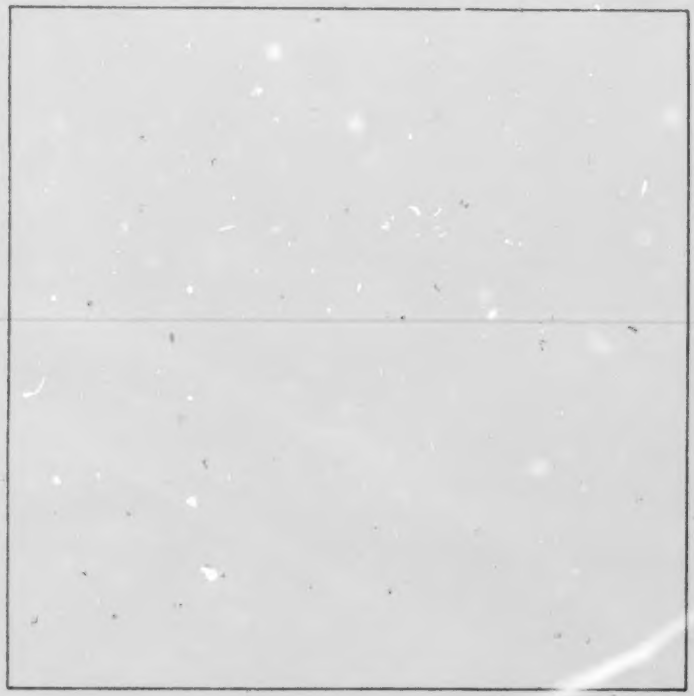
Can you draw a rectangle with perimeter 2 cm? 11 cm?

Units of AREA

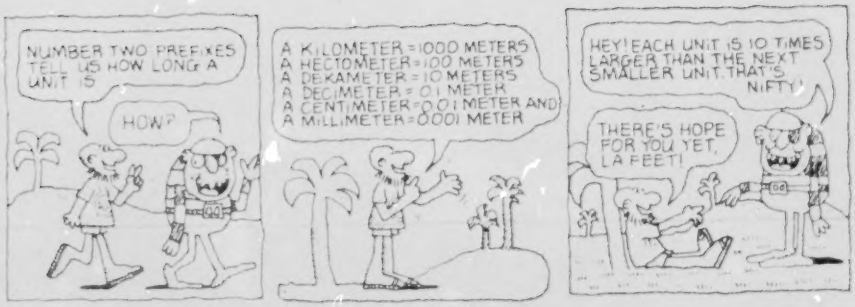
Square millimeter (mm^2)

Square centimeter (cm^2)

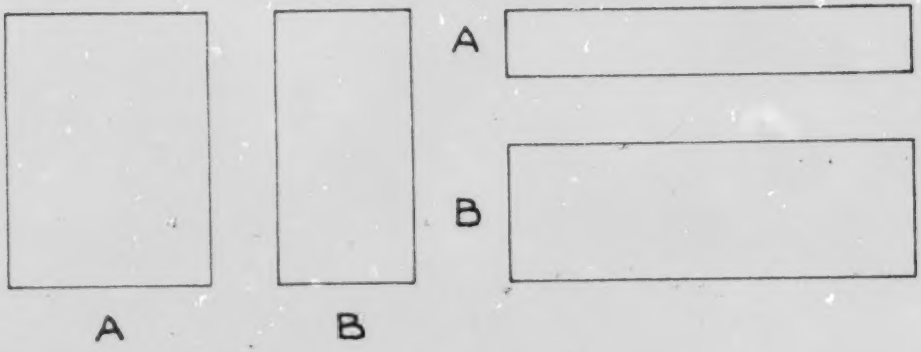
Square decimeter (dm^2)

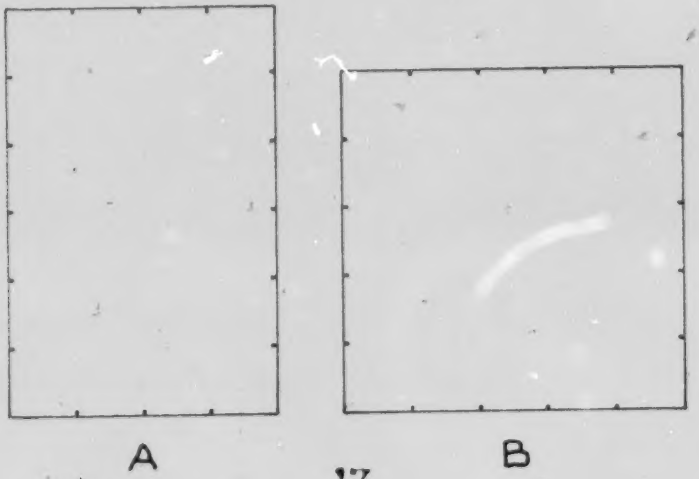


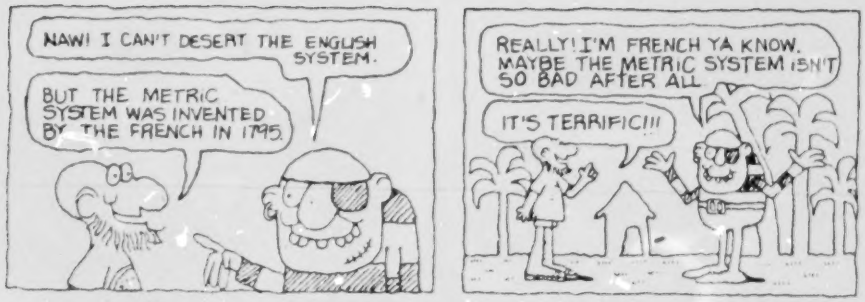
Measure the sides of each square.


NUMBER TWO PREFIXES TELL US HOW LONG A UNIT IS
HOW?
A KILOMETER = 1000 METERS
A HECTOMETER = 100 METERS
A DEKAMETER = 10 METERS
A DECIMETER = 0.1 METER
A CENTIMETER = 0.01 METER AND
A MILLIMETER = 0.001 METER
HEY! EACH UNIT IS 10 TIMES LARGER THAN THE NEXT SMALLER UNIT. THAT'S NIFTY!
THERE'S HOPE FOR YOU YET, LA FEET!

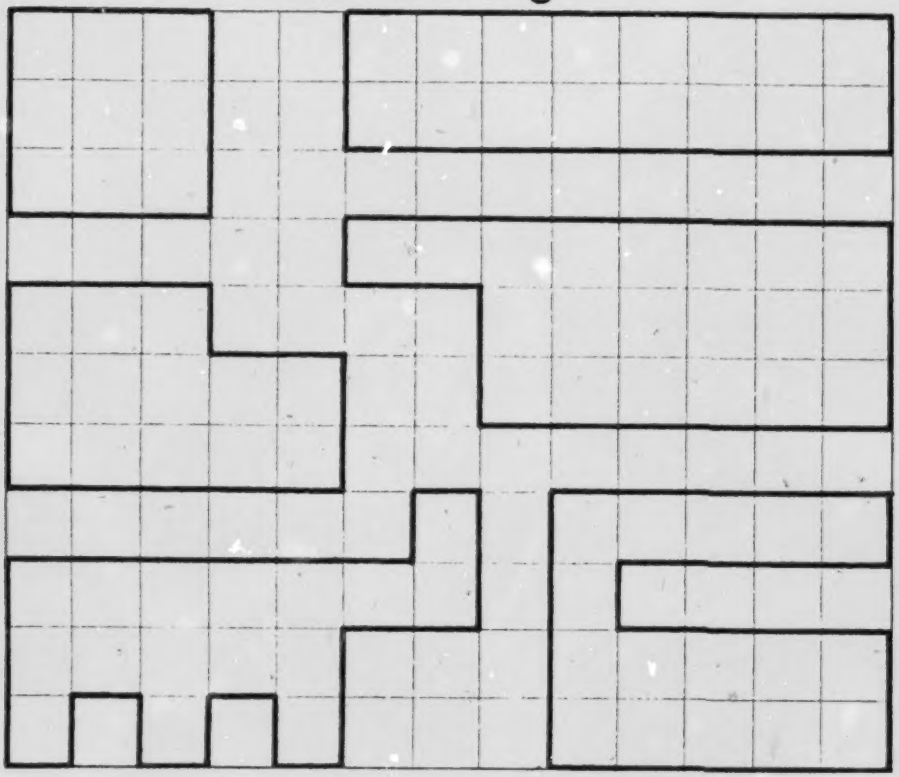
Draw a moustache on the rectangle with the larger area.






NAW! I CAN'T DESERT THE ENGLISH SYSTEM.
BUT THE METRIC SYSTEM WAS INVENTED BY THE FRENCH IN 1795.
REALLY! I'M FRENCH YA KNOW. MAYBE THE METRIC SYSTEM ISN'T SO BAD AFTER ALL
IT'S TERRIFIC!!!

Count the squares. Write the area inside each figure.



18

For rectangles only.

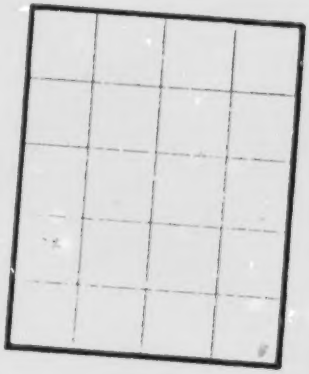
10 cm

1	2	3	4	5	6	7	8	9	10
20	19	18	17	16	15	14	13	12	11

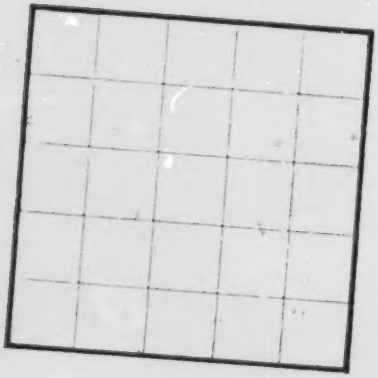
2 cm

LOOK: $10 \times 2 = 20$

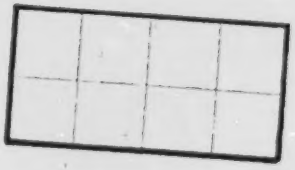
A=_____ cm^2



A=_____ cm^2

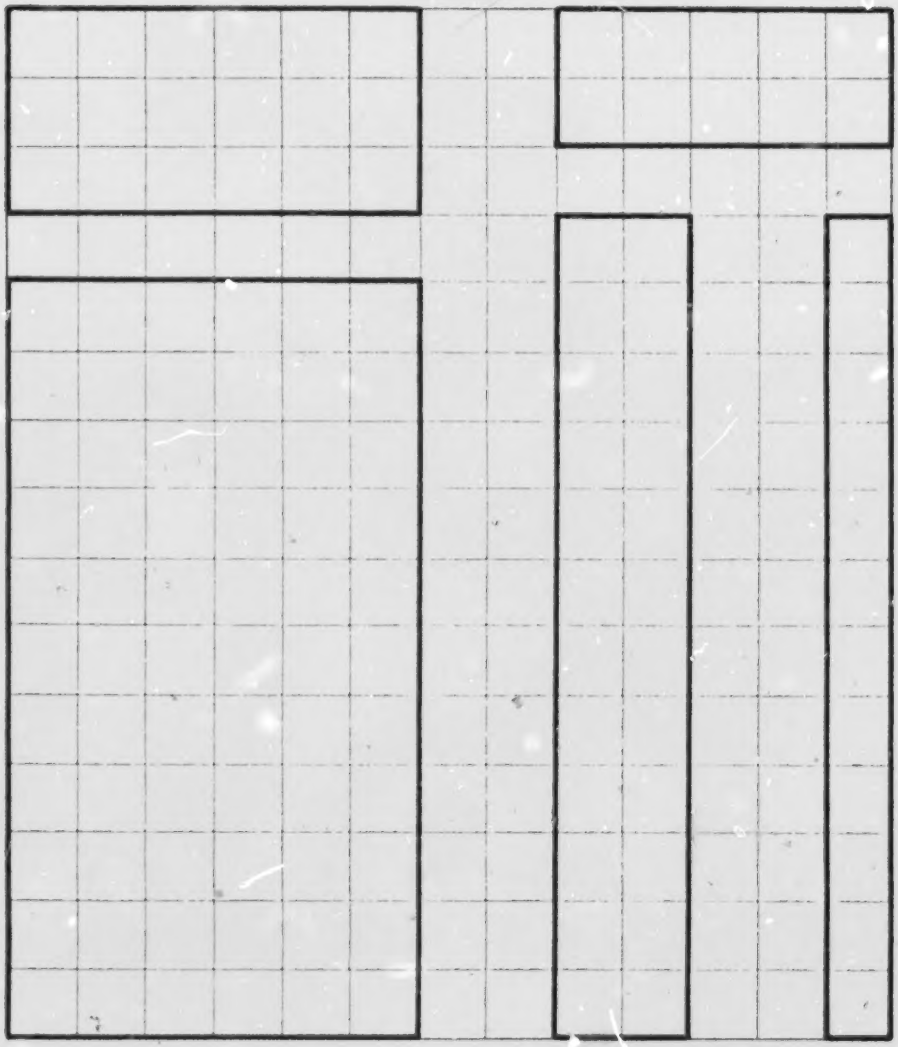


A=_____ cm^2



A=_____ cm^2

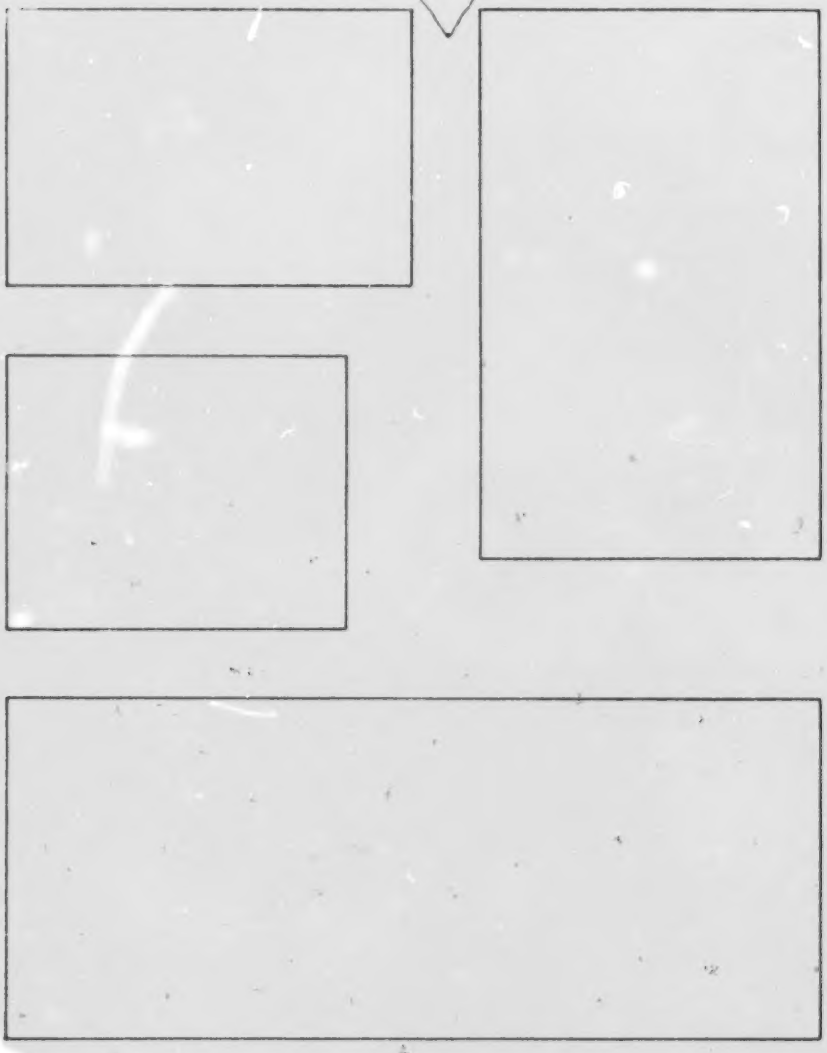
Find the area by multiplying.

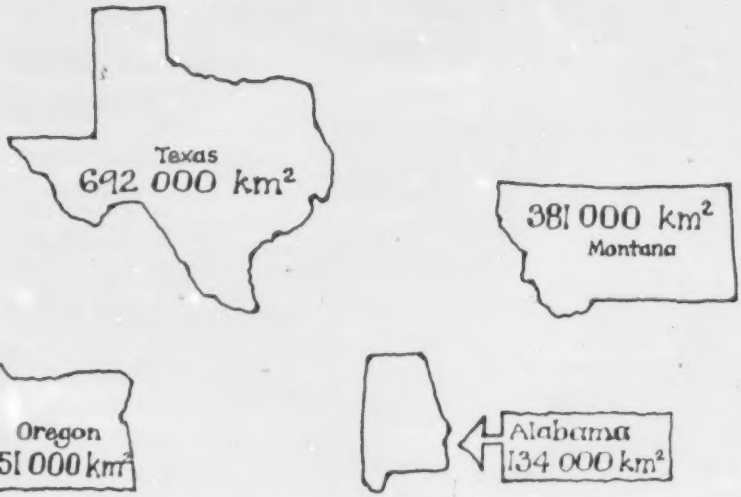


20

25

Use a ruler to help you find the area.





Which state on this page has the largest area?

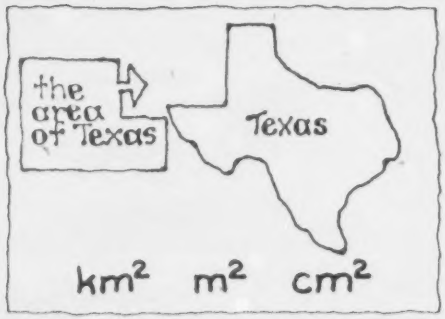
...the smallest?

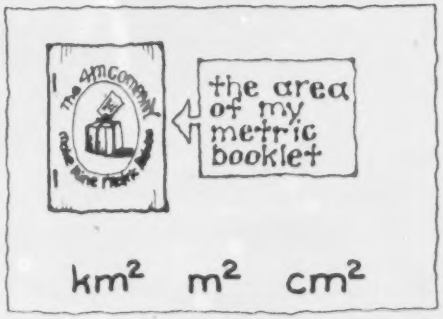
Texas is how much larger than Oregon?

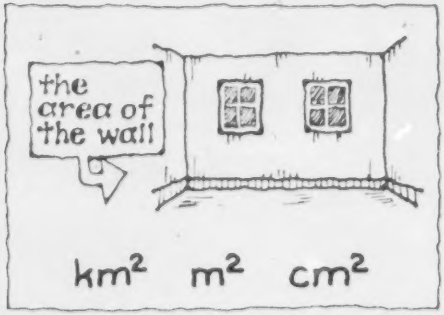
Would five Alabamas be larger or smaller than Texas?

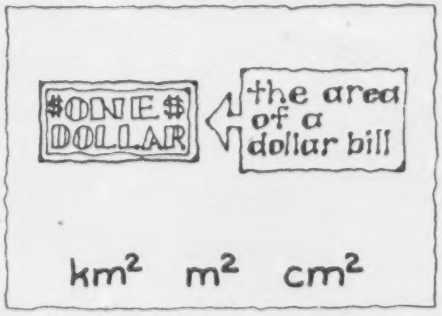
What is the combined land area of all four states?

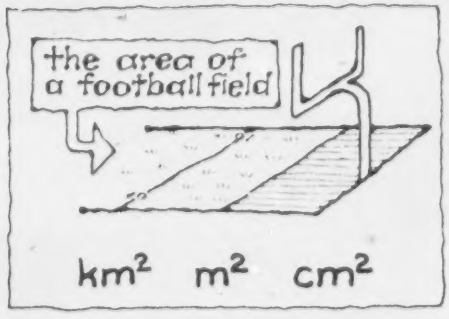
Circle the best unit to use.

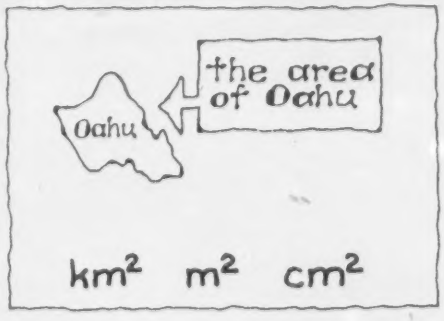








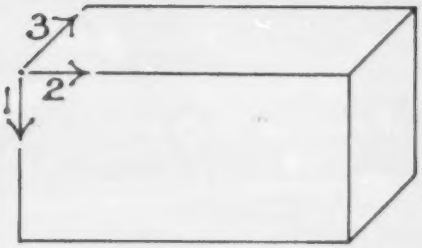




NO! METRIC IS BAD!
STOMP STOMP
GRRR
GRRRRRR
ONLY KIDDING! MAKE MINE METRIC!!!
GRRR
GOOD BOY, LA FEET. I KNEW LOGIC AND REASON WOULD CONVINCE YOU.
JUST KEEP THAT DOG AWAY FROM ME!
JEAN LA FEET IS CURED

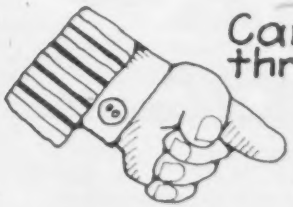
The data below represent rectangles. Fill in the chart.

length	width	perimeter	area
37cm	18cm	cm	cm^2
23m	10m		
14mm	43mm		
87km	15km		

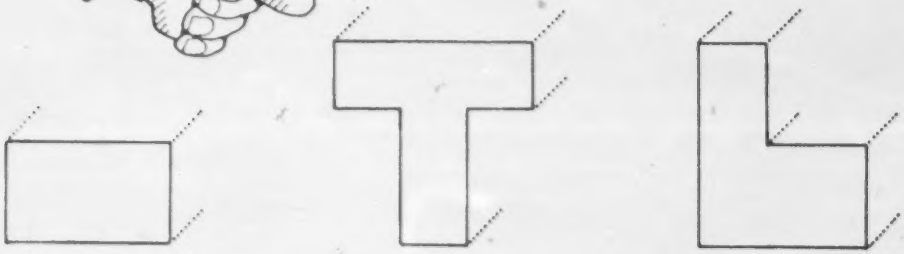


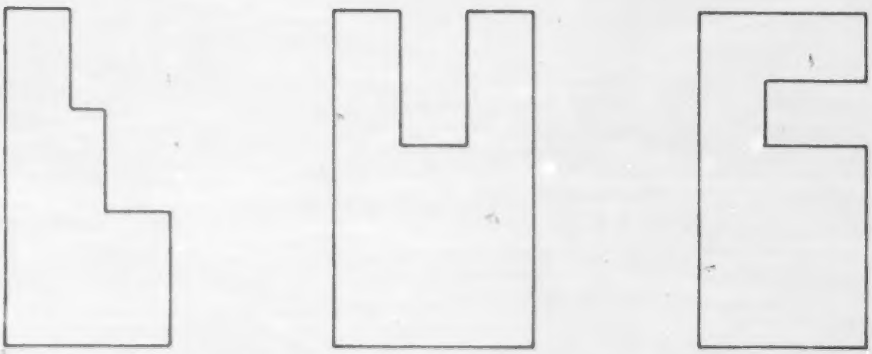
Space figures

are three-dimensional. From a given point, we go in three directions.

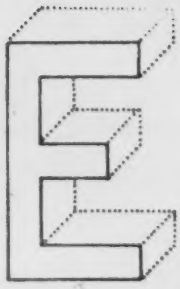


Can you make these look like three-dimensional figures?





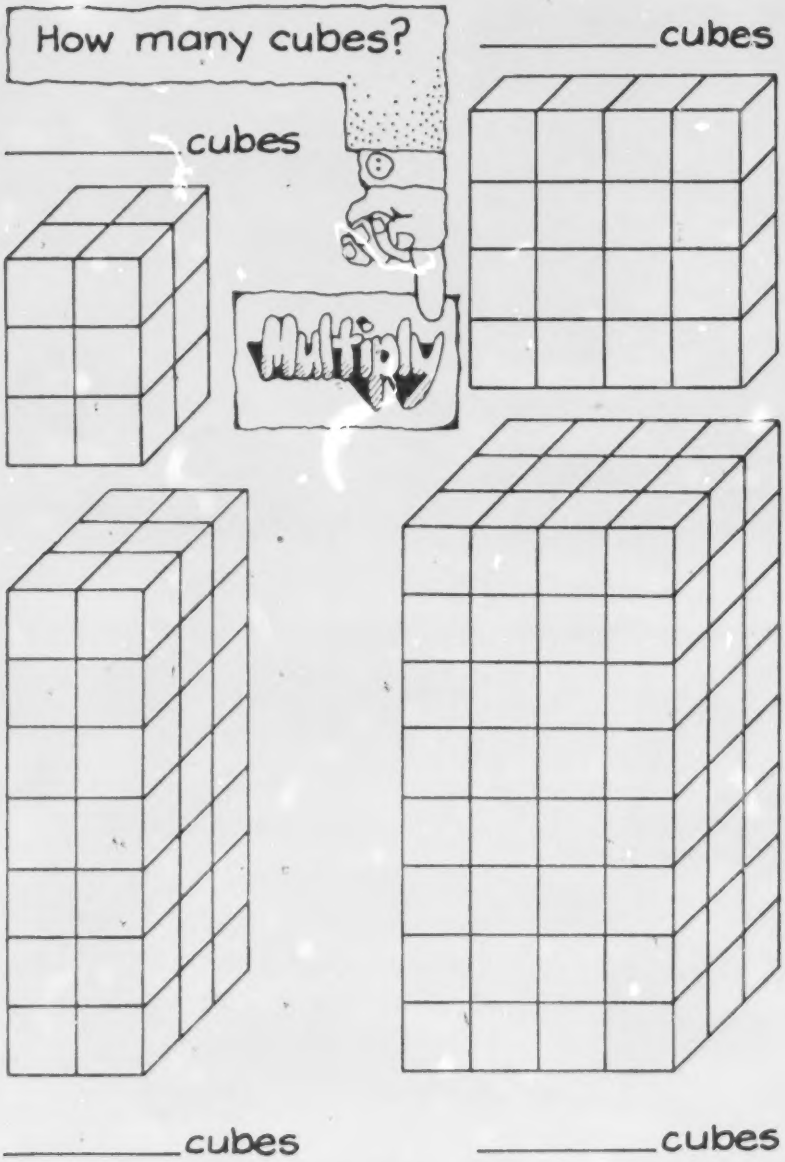
MAKE 3-D LETTERS!

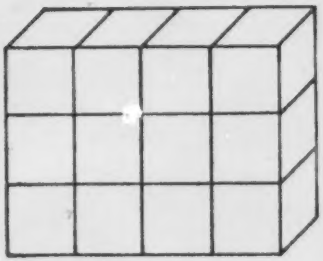


F H

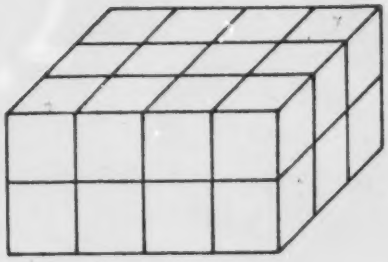
T X I

N Z A

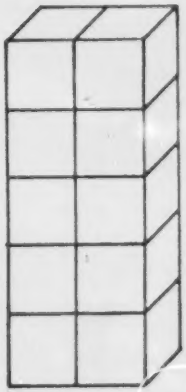

How many cubes?
_____cubes
_____cubes
Multiply
_____cubes
_____cubes

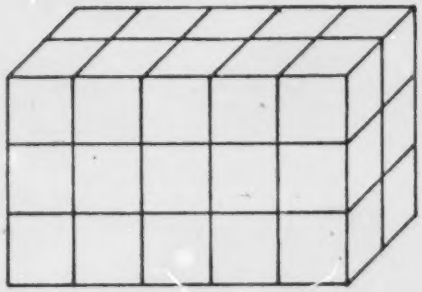


_____ cubes



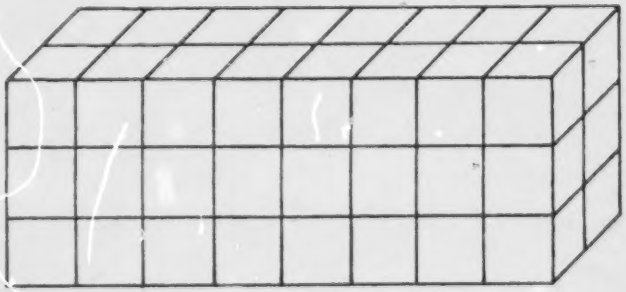
_____ cubes



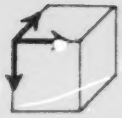


_____ cubes

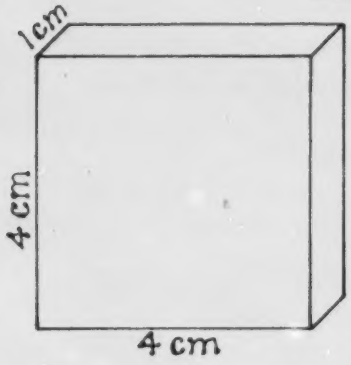
_____ cubes



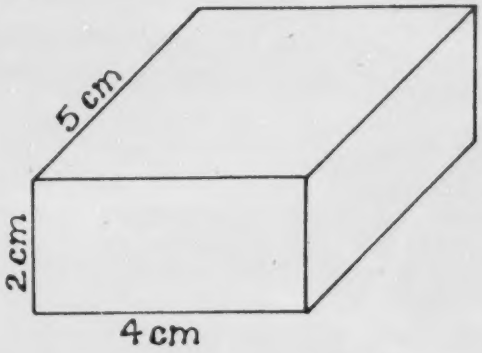
_____ cubes



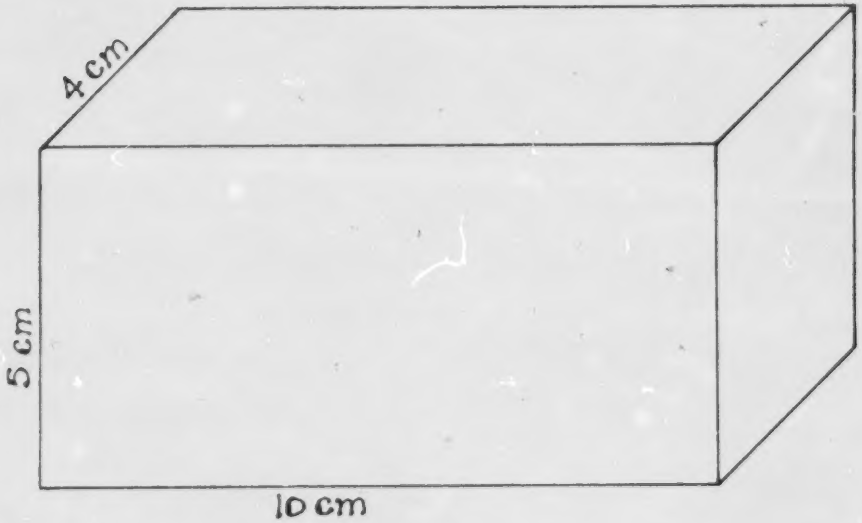
This is a cubic centimeter. Its symbol is cm^3. The 3 stands for 3 dimensions.



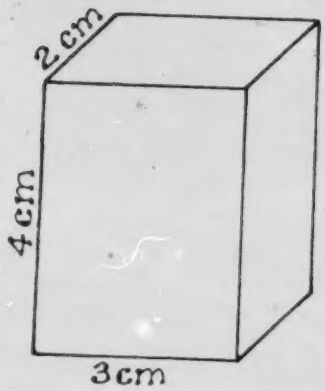
_____ cm^3



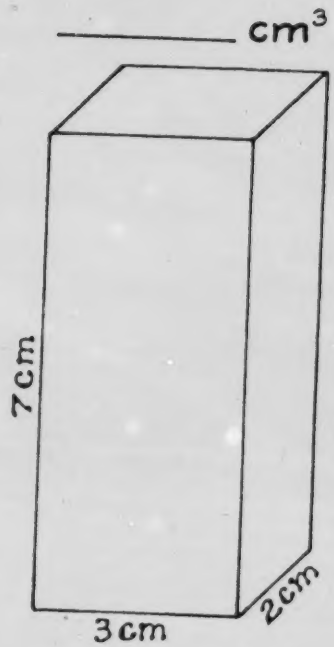
_____ cm^3



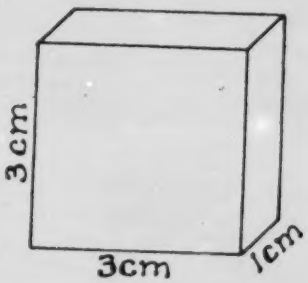
_____ cm^3



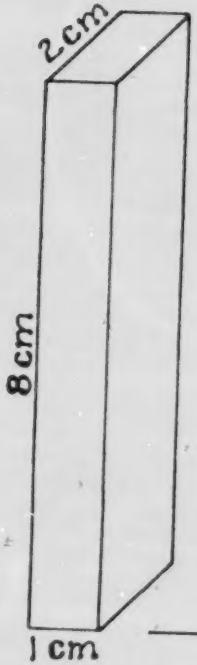
_____ cm^3



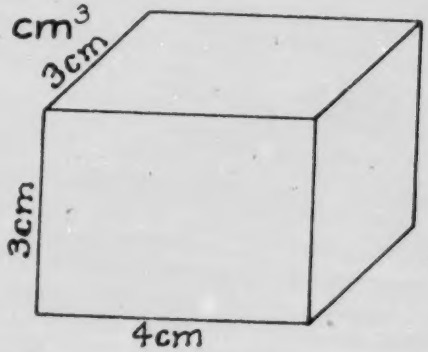
_____ cm^3



_____ cm^3

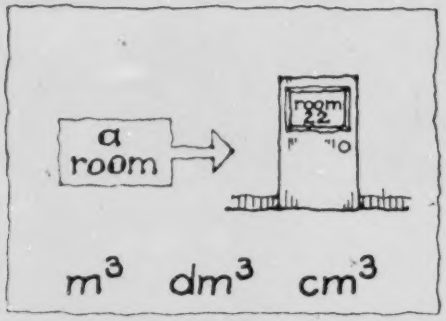


_____ cm^3

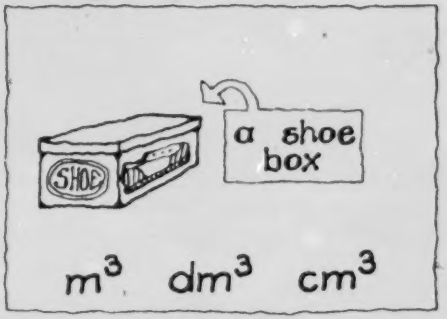


_____ cm^3

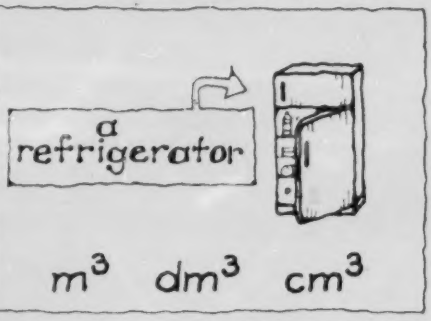
Circle the most appropriate unit for finding the volume of the following:



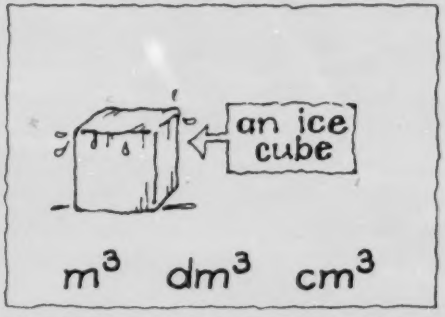
m^3 dm^3 cm^3



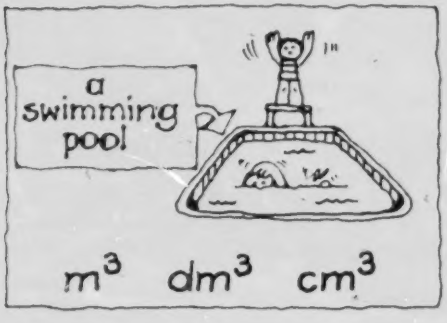
m^3 dm^3 cm^3



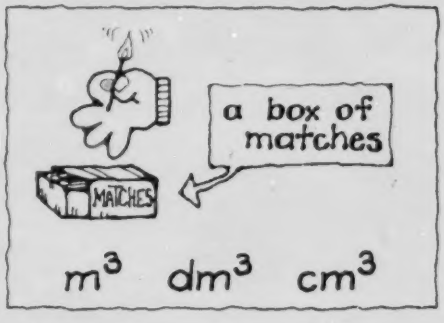
m^3 dm^3 cm^3



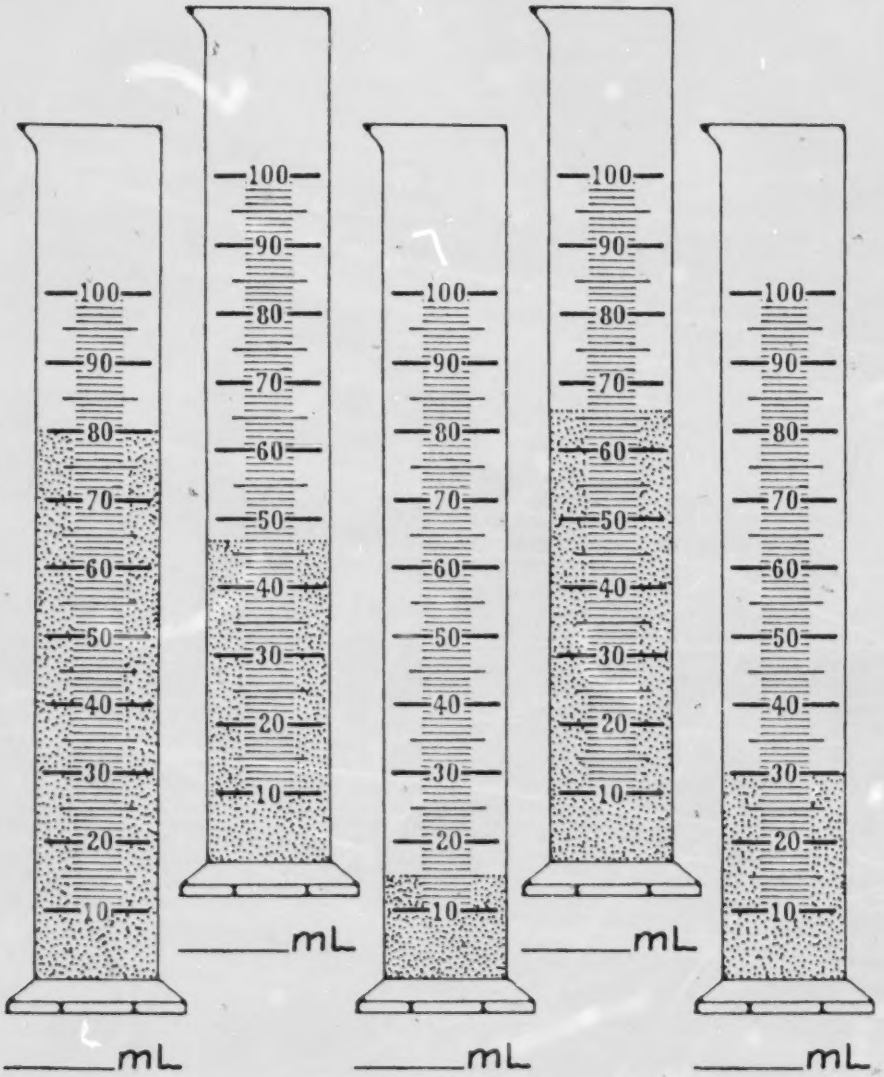
m^3 dm^3 cm^3



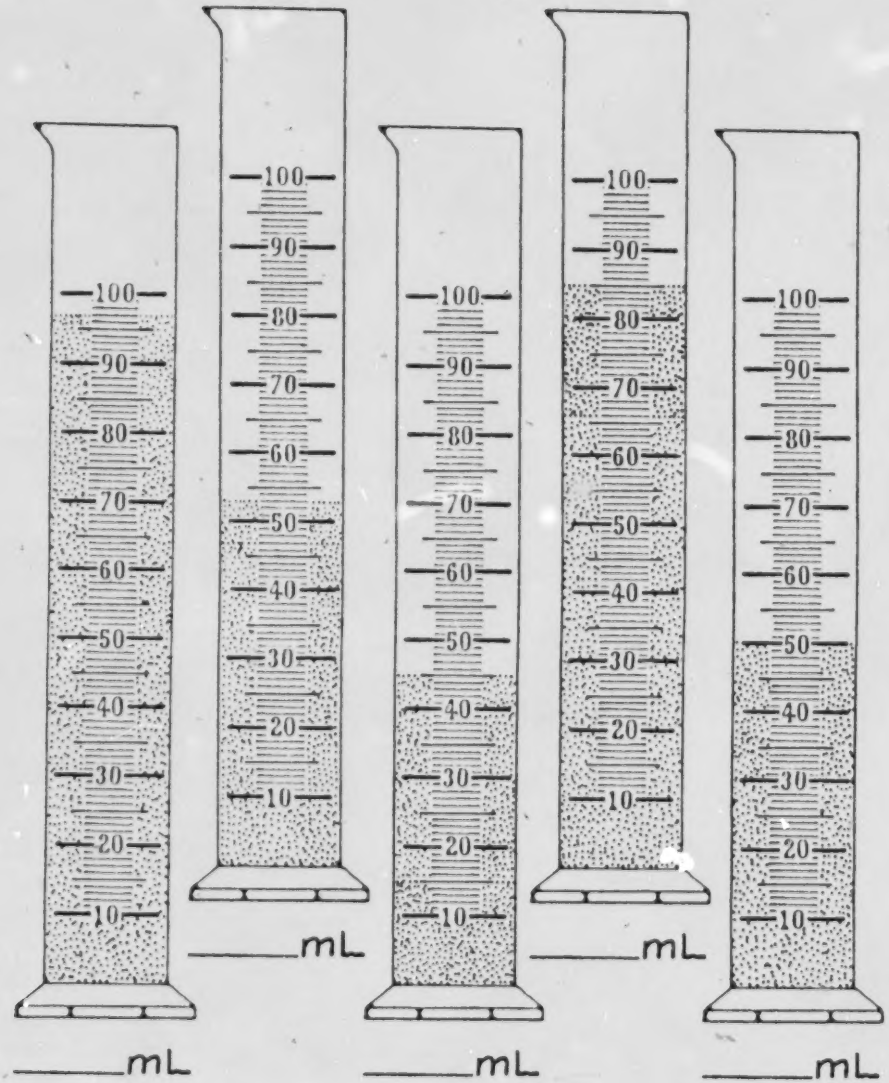
m^3 dm^3 cm^3



m^3 dm^3 cm^3



32



33

TWO DAYS LATER ON OAHU
THE LEAGUE TWINS, I PRESUME?
I'M AMERICAN
I'M NATIONAL
OAHU
MATTHEW MATTIX, SECRET AGENT FOR M.E.T.R.I.C. MY MISSION IS TO CONVINCE YOU THAT METRIC IS BEST!
BUT THAT MEANS WE'LL HAVE TO CHANGE ALL OUR SPORTS
BUT THAT MEANS WE'LL HAVE TO CHANGE ALL OUR SPORTS.
OH NO! ALL OLYMPIC SPORTS ARE ALREADY METRIC.
TRUE!
TRUE!
BUT WHAT ABOUT BASEBALL?
BUT WHAT ABOUT BASEBALL?
MEASUREMENT ISN'T IMPORTANT IN BASEBALL THE FIELDS WILL REMAIN THE SAME SIZE.

A holds _____ mL

B holds _____ mL

C holds _____ mL

D holds _____ mL

SEAT WORK

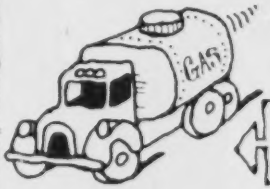
1. What is the combined capacity of A and B?
2. What is the combined capacity of C and D?
3. What is the combined capacity of all 4 containers?

34

Circle the best unit to use.

a glass of water

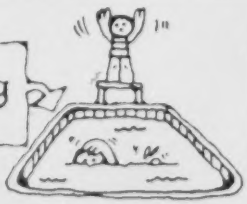
kL L mL



a gasoline truck

kL L mL

a swimming pool



kL L mL

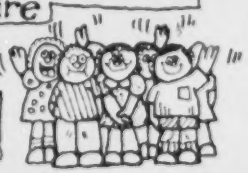
a picnic jug

kL L mL

a bottle of ink

kL L mL

the amount of cola the entire class can drink in one minute



kL L mL

AHA FOOTBALL MEASUREMENT IS VERY IMPORTANT IN FOOTBALL
AHA! FOOTBALL MEASUREMENT IS VERY IMPORTANT IN FOOTBALL
YEAH! TEN YARDS FOR A FIRST DOWN.
SEE! THAT'S WHY WE DON'T LIKE METRIC TEN METERS IS TOO LONG FOR A FIRST DOWN.
SEE! THAT'S WHY WE DON'T LIKE METRIC TEN METERS IS TOO LONG FOR A FIRST DOWN
YEAH TEN METERS IS ALMOST 11 YARDS

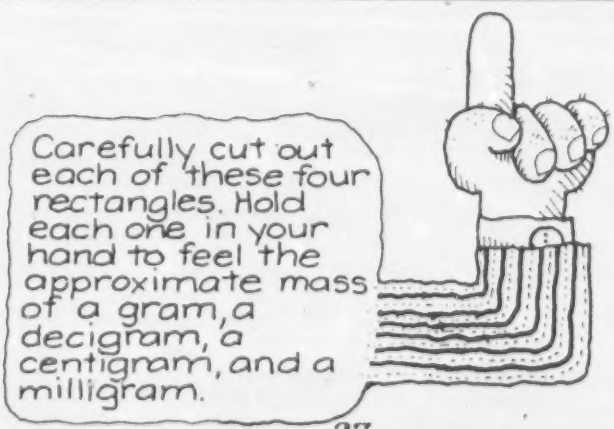
Can you unscramble these words which deal with measuring liquids?

1. tierl _____
2. limitiller _____
3. tilerolik _____
4. bucic cemideret _____
5. quidil _____
6. dratugade yecrilnd _____
7. ropu _____
8. eelirtinct _____
9. cidetilret _____
10. trohiletec _____

GRAM

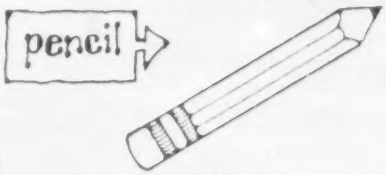
dg

cg


Carefully cut out each of these four rectangles. Hold each one in your hand to feel the approximate mass of a gram, a decigram, a centigram, and a milligram.

37

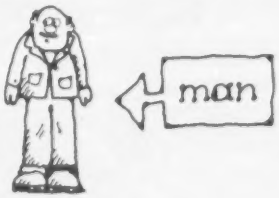
Circle the best unit to use.



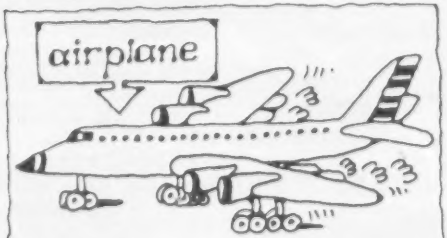
g kg t

g kg t

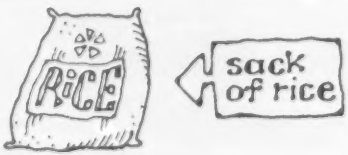
g kg t



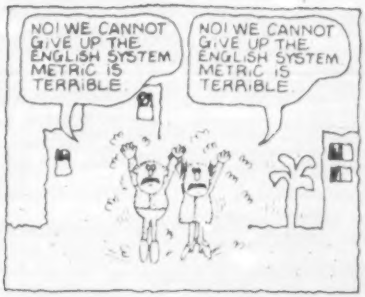
g kg t

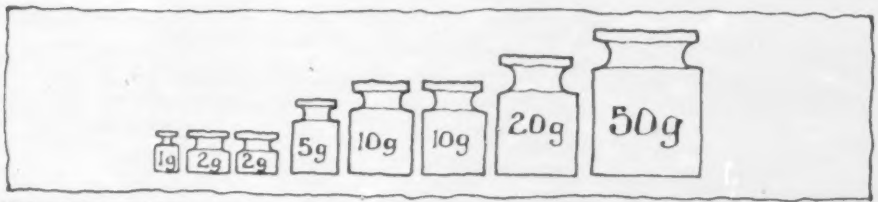


g kg t



g kg t





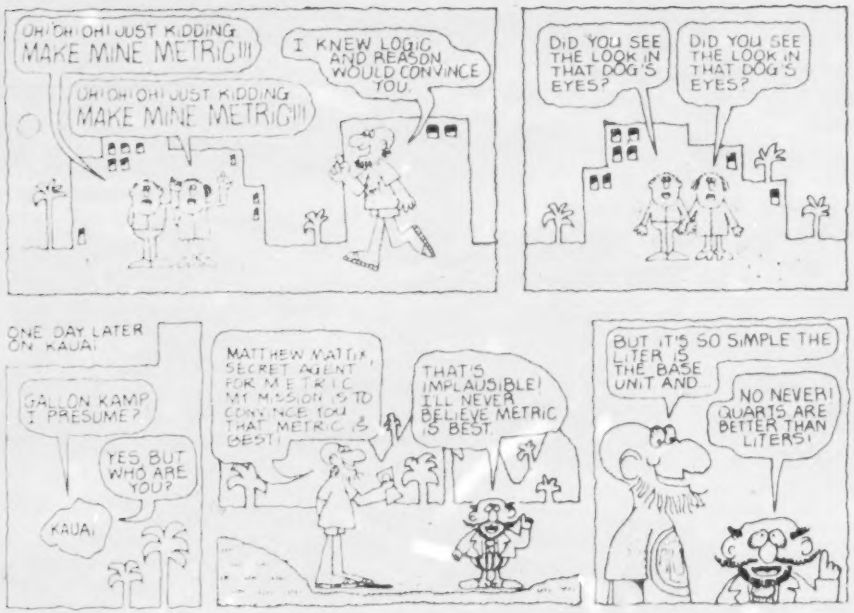
With these weights we can weigh anything from 1 gram to 100 grams.

For example,
68g=50g+10g+5g+2g+1g

Number a sheet of paper from 1 gram to 50 grams.

Then list the combination of weights which would add up to that number.

1g=1g
2g=2g
3g=2g+1g
4g=
5g=


OH! OH! OH! JUST KIDDING MAKE MINE METRIC!!!
OH! OH! OH! JUST KIDDING MAKE MINE METRIC!!!
I KNEW LOGIC AND REASON WOULD CONVINCE YOU.
DID YOU SEE THE LOOK IN THAT DOG'S EYES?
DID YOU SEE THE LOOK IN THAT DOG'S EYES?
ONE DAY LATER ON KAUAI
GALLON KAMP I PRESUME?
YES, BUT WHO ARE YOU?
KAUAI
MATTHEW WATTIX SECRET AGENT FOR METRIC MY MISSION IS TO CONVINCE YOU THAT METRIC IS BEST!
THAT IS IMPLAUSIBLE! I'LL NEVER BELIEVE METRIC IS BEST
BUT IT'S SO SIMPLE THE LITER IS THE BASE UNIT AND
NO NEVER! QUARTS ARE BETTER THAN LITERS!

Weigh 5 things.

1 weighs _____

2 weighs _____

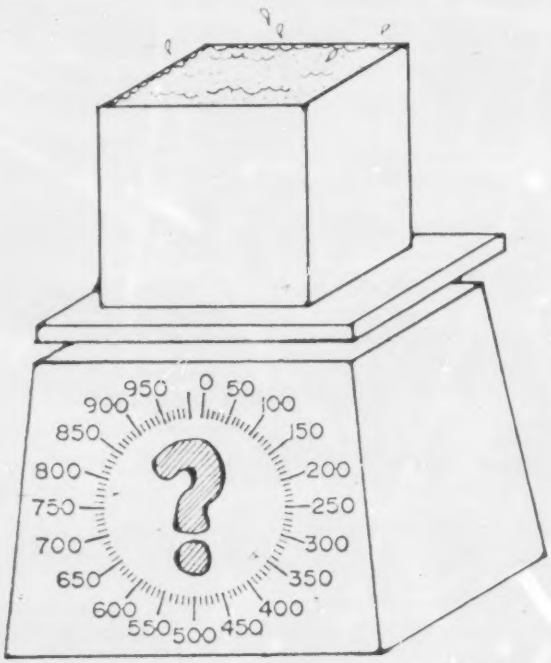
3 weighs _____

4 weighs _____

5 weighs _____

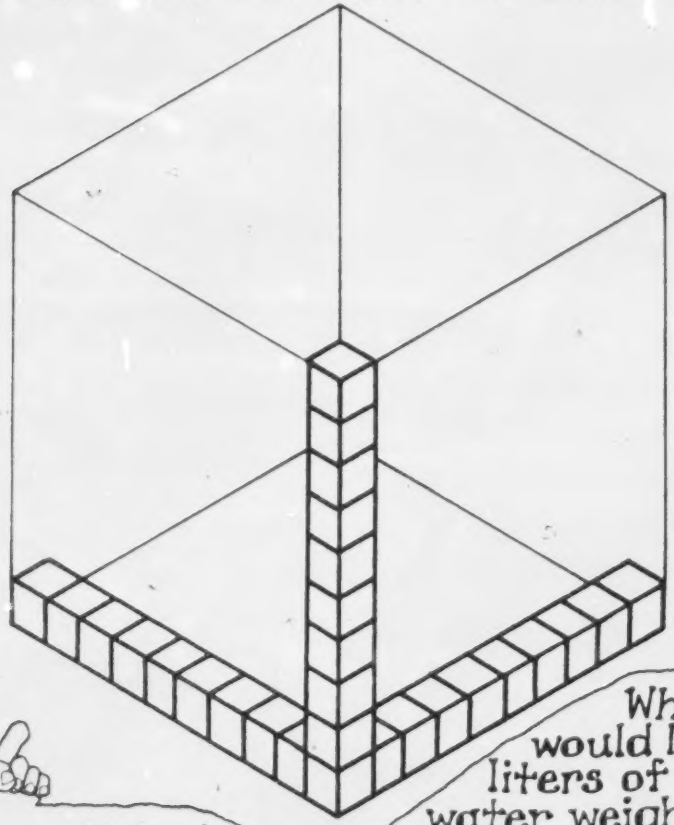
Another name for a cubic decimeter is:

A liter of water weighs:



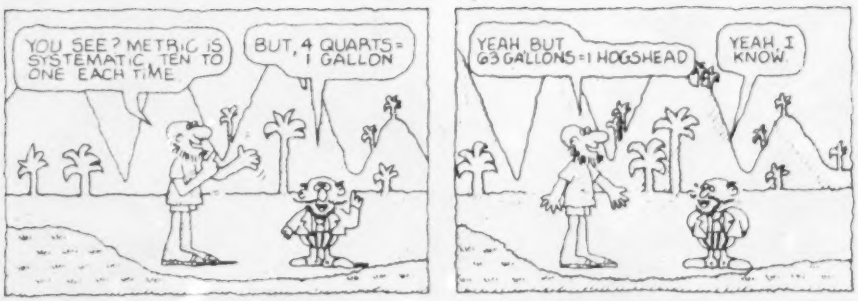
What would 7 liters of water weigh?

10 MILLILITERS = 1 CENTILITER
4 OUNCES = 1 GILL
10 CENTILITERS = 1 DECILITER
4 GILLS = 1 PINT
10 DECILITERS = 1 LITER
2 PINTS = 1 QUART
OH! OH!



A m^3 will hold $10 \times 10 \times 10 = 1000$ liters

What would 1000 liters of water weigh?



four and three hundred seven thousandths

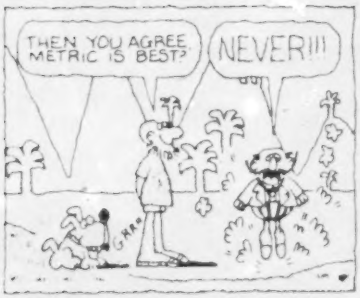
tenths
ones | hundredths
thousanths

4.307

and

Read the following.

4.7	6.45	8.62	3.91	99.3
18.901	14.003	6.04	8.01	6.009
27.4	8.07	9.32	8.040	1.999
0.001	0.04	0.6	0.496	0.197
5.2	5.22	5.222	5.002	5.022



Write the next four decimals.

0.049m				
2.109m				
6.699m				
8.999m				
5.608m				

Add.

3.172m +2.014m	0.76m +1.13m	5.905m +1.061m
5.003m +2.715m	8.132m +1.036m	1.237m +0.001m
1.123m +3.214m	9.999m +0.001m	9.99m +0.01m
4.147m +3.145m	0.413m +2.823m	1.01m +2.34m

ONE WEEK LATER IN THE WATERS OFF NIIHAU
GILL HODGES, I PRESUME?
YES BUT WHO ARE YOU?
NIIHAU
MATTHEW MATTOX, SECRET AGENT FOR METRIC. MY MISSION IS TO CONVINCE YOU THAT METRIC IS BEST!
HEY MAN! I GOT GILLS. I NEED THEM TO SURVIVE! I BREATHE THROUGH MY GILLS!

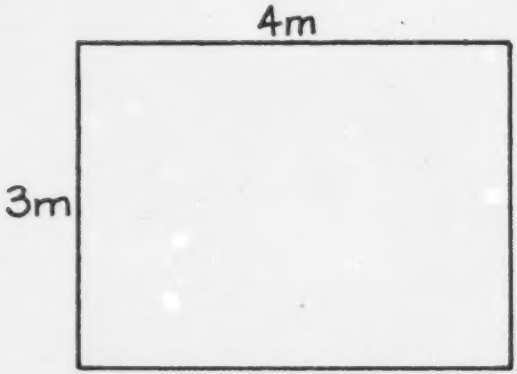
Subtract.

7.95m −3.14m	8.2m −1.1m	3.978m −1.234m
0.47m −0.13m	0.99m −0.44m	0.999m −0.123m
1.999m −0.991m	9.999m −9.909m	0.909m −0.303m
4.932m −1.108m	3.718m −1.146m	9.194m −3.912m

Add or subtract.

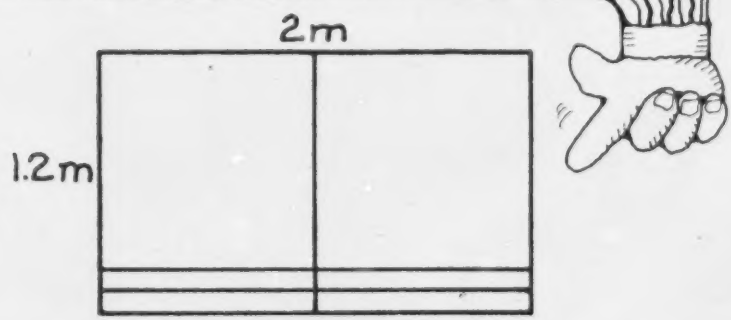
$4.643 + 1.2$	$3.6 + 1.75$	$8.37 + 0.617$
$7.952 - 1.5$	TRICKY! $3.9 - 1.72$	$17.45 - 3.4$
$1.6 + 3.25$	$8.789 + 1.21$	$0.004 + 0.6$
$4.916 - 1.6$	$66.4 - 14.12$ TRICKY!	$2.569 - 0.1$

Remember how to find area? These are scale drawings of square meters.

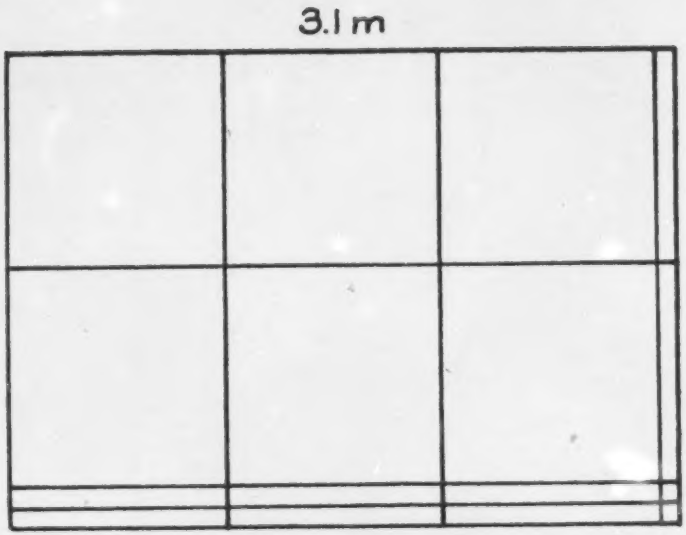


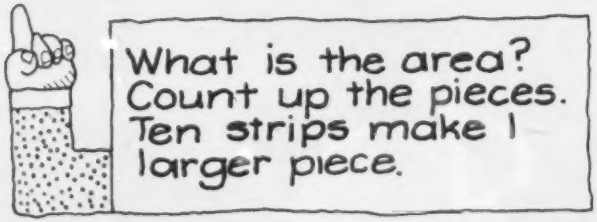
Area = 3 m × 4 m = 12 m²

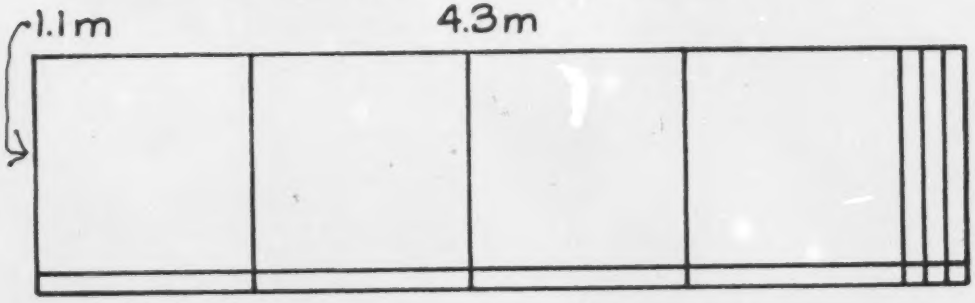
Try this one?



There are 2 square meters, and 4 strips. Each strip is one tenth of a square meter.


3.1 m
2.2 m


What is the area?
Count up the pieces.
Ten strips make 1
larger piece.


1.1 m
4.3 m

Area?

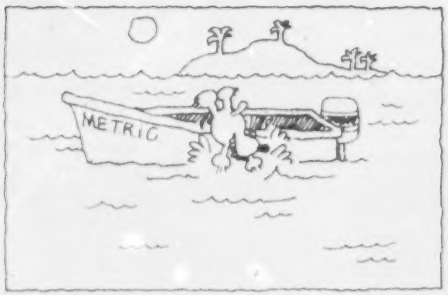
Place the decimal.

4.6 x 1.2 92 46 552	2.7 x 9.3 81 243 2511	7.6 x 3.7 532 228 2812
4.75 x 2.3 1425 950 10925	3.48 x 1.2 696 348 4176	0.49 x 1.6 294 49 784

4.132 x 1.361 4132 24792 12396 4132 5623652	9.132 x 8.112 18264 9132 9132 73056 74078784

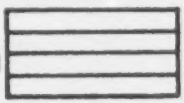
Multiply.

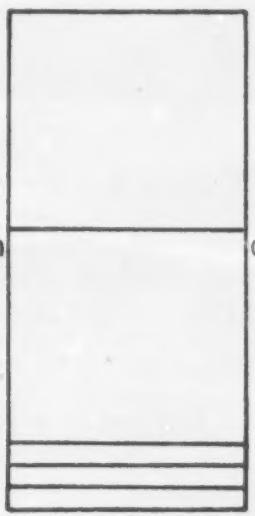
2.4×3	3.14×5	6.23×4	8.97×2
1.3×2.4	3.2×1.7	8.3×1.7	5.5×7
1.342×4	2.004×8	27.1×0.3	1.7×1.2



One side = 4 cm
Area = 32 cm^2
Other side = ?

$$4\overline{)32}\quad 8,\ 32,\ 0$$





One side = 2.3 m
Area = 2.53 m^2
Other side = ?

Place the decimal point.

```
  37
3|1.11
  9
  21
  21
   0
```

```
  37
1.3|4.81
  39
   91
   91
    0
```

```
  222
0.4|.888
   8
    8
    8
     8
     8
     0
```

```
   6
2.1|1.26
  126
    0
```

```
   41
1.4|57.4
  56
   14
   14
    0
```

```
   331
0.3|993
   9
    9
    9
     3
     3
     0
```

```
  2122
40|8.4880
  80
   48
   40
    88
    80
     80
     80
     00
```

```
   777
1.1|8.547
   77
    84
    77
     77
     77
      0
```

```
   12
1.2|14.4
   12
    24
    24
     0
```

58

DIVIDE DECIMALS.

$0.4\overline{)1.04}$ (2.6)

$0.6\overline{)133.2}$

$0.5\overline{)26.5}$

$0.8\overline{)2.56}$

$0.7\overline{)36.4}$

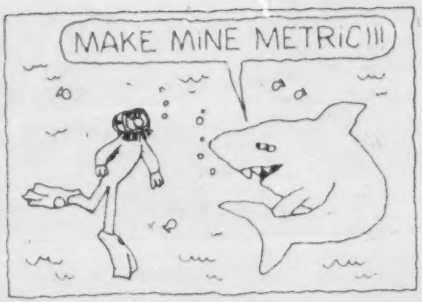
$0.2\overline{)7.42}$

$1.2\overline{)25.2}$

$1.8\overline{)0.396}$

$2.5\overline{)6.00}$

$0.35\overline{)4.375}$



1. deci =
+centi=

2. hecto=
+kilo=

3. milli=
+centi=

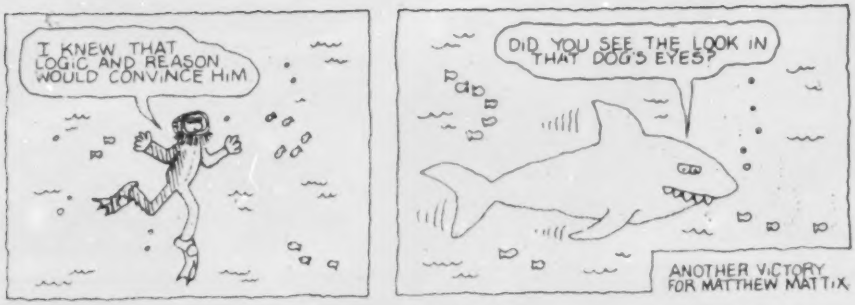
4. deka=
+hecto=

5. kilo=
+deka=

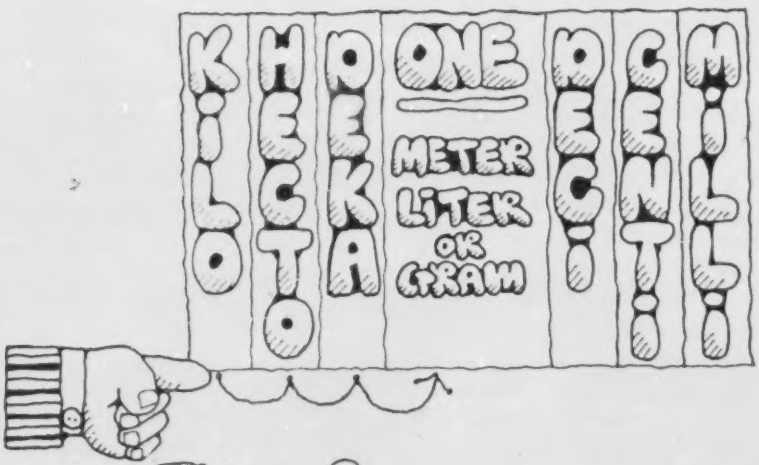
6. deci=
+milli=

7. deka= 10.0
+deci= .

8. hecto= .
+centi= .



$3\,kg = \underset{1\ 2\ 3}{?}\ g$



Therefore... $3\,kg = 3\underset{1\ 2\ 3}{000}\,g$

$4\,dam = \_\_\_\_\_\,m$

$6\,dL = \_\_\_\_\_\,mL$

$104\,hg = \_\_\_\_\_\,g$

$42\,cm = \_\_\_\_\_\,mm$

$0.4\,hL = \_\_\_\_\_\,L$

$2.1\,km = \_\_\_\_\_\,m$

SIX DAYS LATER ON LANAI...
EZRA POUNDS, I PRESUME?
YES, BUT WHO ARE YOU?
LANAI
MATTHEW MATTIX, SECRET AGENT FOR M.E.T.R.I.C. MY MISSION IS TO CONVINCE YOU THAT METRIC IS BEST!
A POUND IS A POUND IS A POUND...

7 mL = ? dL

Therefore... 7 mL = 0.07 dL

427 cL = _____ L

6276 m = _____ km

67 mg = _____ cg

4.5 dag = _____ kg

526 cm = _____ dam

47 dm = _____ m

10 MILLIGRAMS = 1 CENTIGRAM
10 CENTIGRAMS = 1 DECIGRAM
HOW NOW BROWN PAUL!
ZZZZZ
POUNDS! ARE YOU AWAKE?
OH YES! 16 DRAMS = 1 OUNCE 16 OUNCES = 1 POUND

---

5 kL = _____ L

4.1 kg = _____ dag

6000 mg = _____ g

8000 mL = _____ L

4 mg = _____ g

18 mL = _____ L

425 mm = _____ m

4 cL = _____ L

465 cg = _____ g

6 m = _____ mm

6 hm = _____ m

8 hL = _____ L

14 hg = _____ g

1.6 L = _____ mL

4.2 g = _____ mg

4000 m = _____ km

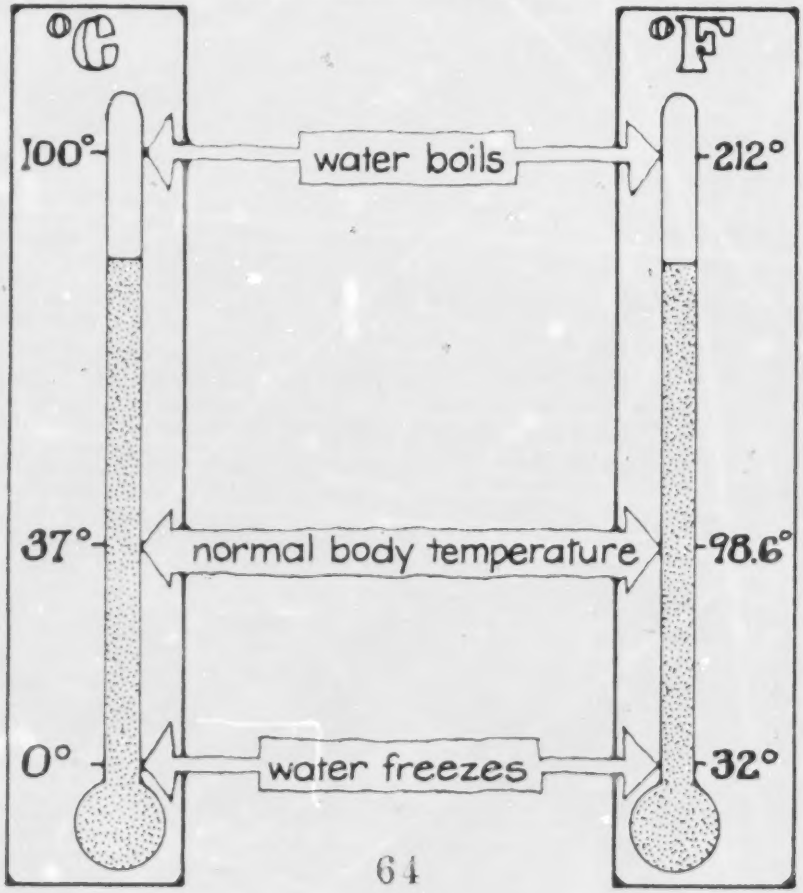
8600 L = _____ kL

14000 g = _____ kg

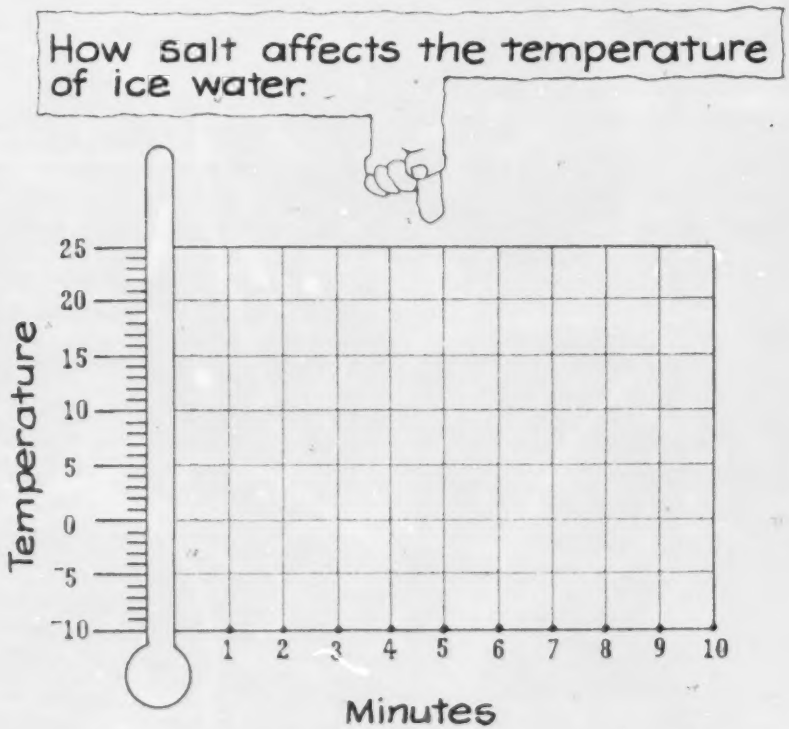
2 m = _____ dam

44 L = _____ daL

10 DEKAGRAMS = 1 HECTOGRAM
2000 POUNDS = 1 SHORT TON
2240 POUNDS = 1 LONG TON
OH! OH!
10 HECTOGRAMS = 1 KILOGRAM
REALLY?

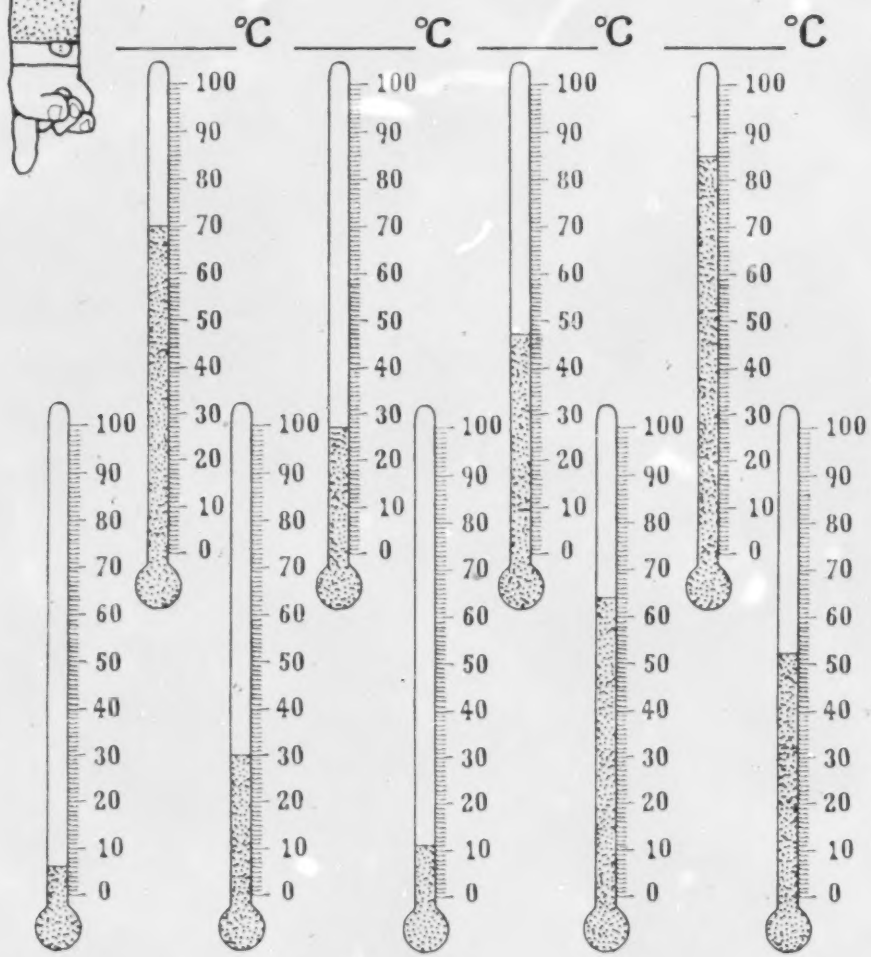

°C
°F
100°
212°
water boils
37°
98.6°
normal body temperature
0°
32°
water freezes

ARE YOU READY TO ACCEPT THE METRIC SYSTEM?
NO! METRIC IS TERRIBLE!!!
GRRRR

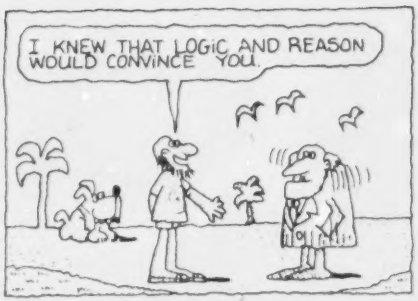

How salt affects the temperature of ice water.
Temperature
25
20
15
10
5
0
-5
-10
1
2
3
4
5
6
7
8
9
10
Minutes

61

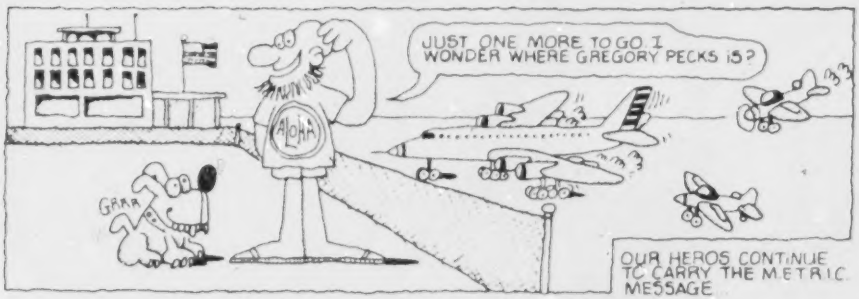
Read these temperatures.



62



exa means 1 000 000 000 000 000 000
peta means 1 000 000 000 000 000
tera means 1 000 000 000 000
giga means 1 000 000 000
mega means 1 000 000
kilo means 1 000
hecto means 100
deka means 10
deci means 0.1
centi means 0.01
milli means 0.001
micro means 0.000 001
nano means 0.000 000 001
pico means 0.000 000 000 001
femto means 0.000 000 000 000 001
atto means 0.000 000 000 000 000 001



0.001 lanitown = _____ lanitown

0.1 mate = _____ mate

0.001 tant = _____ tant

1000 manjaro = _____ manjaro

100 r = _____ r

1000 000 lomania = _____ lomania

1000 000 000 ntic = _____ ntic

0.000 001 nesia = _____ nesia

1000 000 000 000 tory = _____ tory

0.000 000 000 000 000 001 rney =

_____ rney

4dm	20cm	100mm	5dm	7dm	300mm
60cm	400mm	1dm	80cm	30cm	10cm
7dm	5dm	10cm	900mm	400mm	80cm
800mm	9dm	800mm	50cm	1dm	7dm
60 cm	100mm	500mm	6dm	900mm	200mm
5dm	90cm	80cm	700mm	10cm	8dm

Shade any two squares that touch so that the sum is 1 meter.

Can you unscramble these letters to form metric units?

1. rteem _____
2. malgkoir _____
3. tilre _____
4. ceerthotli _____
5. aaedmgkr _____
6. eeeicdtmr _____
7. ciintleert _____
8. malilmrig _____
9. mgar _____
10. ergdese slicesu _____

Can you do these problems?

$$\begin{array}{r} 46.21 \\ +\ 2.54 \\ \hline \end{array} \qquad \begin{array}{r} 0.435 \\ +0.61 \\ \hline \end{array} \qquad \begin{array}{r} 4.95 \\ -\ 1.2 \\ \hline \end{array}$$

$$\begin{array}{r} 2.41 \\ \times\ 1.1 \\ \hline \end{array} \qquad \begin{array}{r} 6.4 \\ \times 0.5 \\ \hline \end{array} \qquad \begin{array}{r} 8.002 \\ \times\ 3 \\ \hline \end{array}$$

$$2.1\overline{)6.93} \qquad 0.4\overline{)9.24} \qquad 6\overline{)0.738}$$

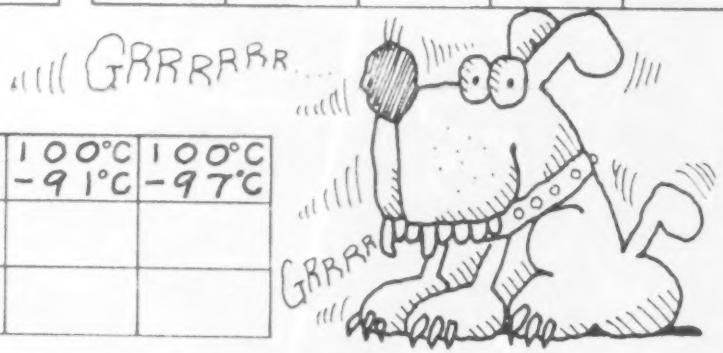
SECRET CODE

100°C 92°C	100°C -88°C
8°C	
M	

100°C -91°C	100°C -99°C	100°C -92°C	100°C -96°C

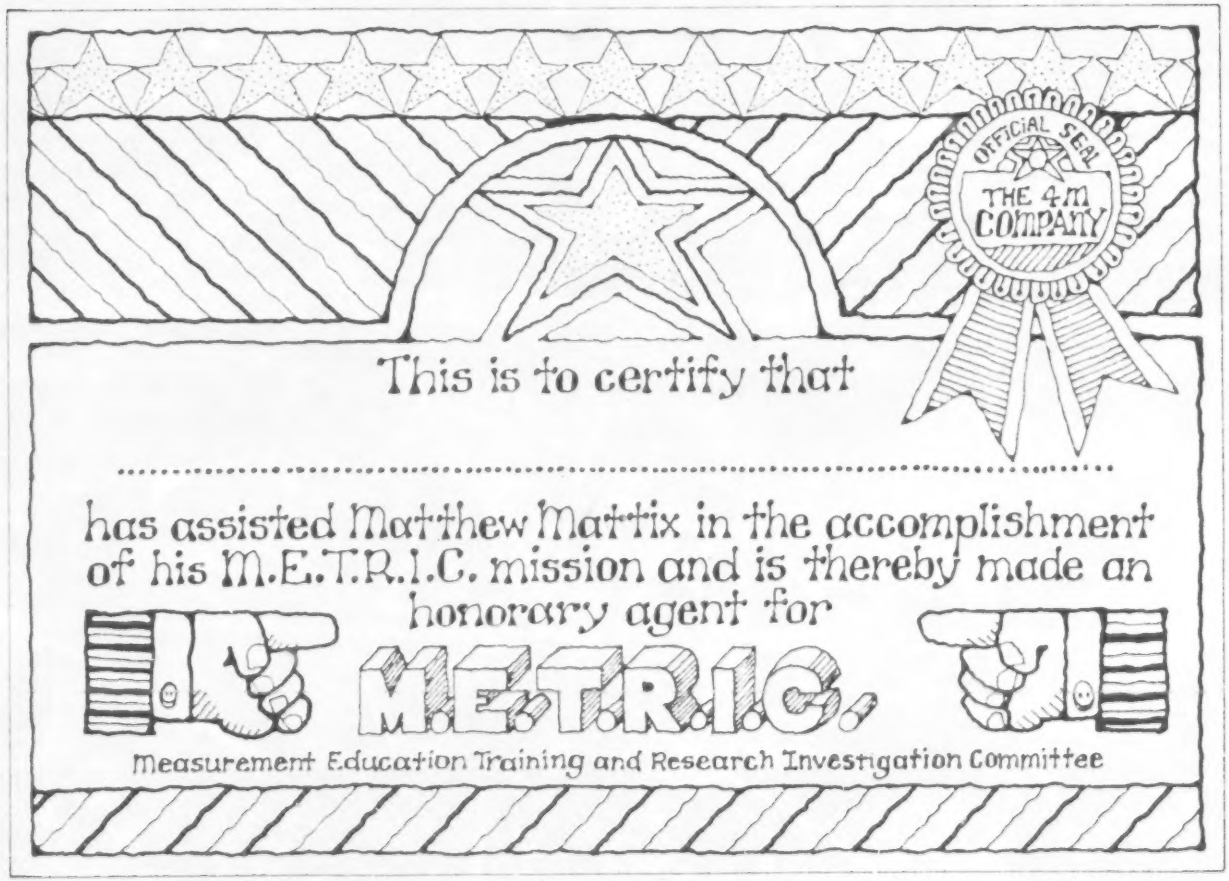
100°C -94°C	100°C 89°C

100°C -93°C	100°C -87°C	100°C -95°C	100°C -94°C	100°C -98°C

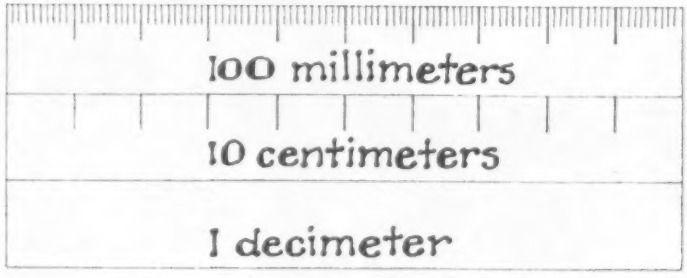


100°C -99°C	100°C -91°C	100°C -97°C

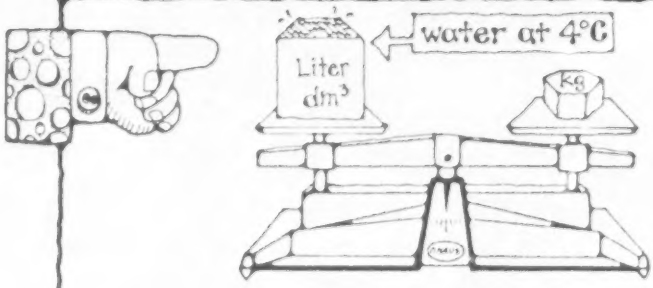
100°C -90°C	100°C -96°C	100°C -99°C	100°C -89°C	100°C -87°C	100°C -91°C


OFFICIAL SEAL
THE 4m COMPANY
This is to certify that
.....
has assisted Matthew Mattix in the accomplishment of his M.E.T.R.I.C. mission and is thereby made an honorary agent for
M.E.T.R.I.C.
Measurement Education Training and Research Investigation Committee

M.E.T.R.I.C. SECRETS



10 decimeters = 1 meter
100 centimeters = 1 meter
1000 millimeters = 1 meter



* a cubic decimeter is a liter
* a liter of water at 4° Celsius measures one kilogram